

**Technical Support for Procurement and Project Management  
and Private Sector Participation to the Ministry of Water and  
Irrigation, Water Authority of Jordan and the Jordan Valley  
Authority**

Support for Economic Growth and Institutional Reform:  
General Business, Trade & Investment IQC

**Aqaba Water Company  
Organization and Staffing Plan  
(3<sup>rd</sup> edition)**

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## **ACRONYMS**

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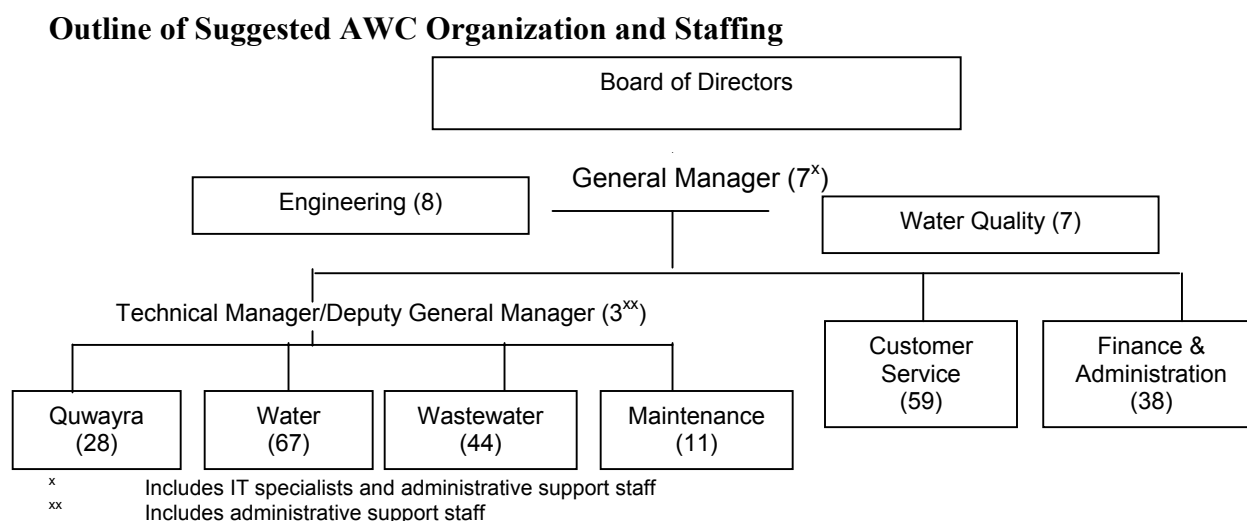
ASEZA	Aqaba Special Economic Zone Authority
ASG	Assistant Secretary General
AWC	Aqaba Water Company
CIS	Customer Information System
CSR	Customer Service Representative
DGM	Deputy General Manager
FAS	Financial and Administrative Systems Project
GIS	Geographic Information System
GM	General Manager
GOJ	Government of Jordan
GTZ	Gesellschaft Fur Technische Zusammenarbeit
HQ	Headquarter
HRD	Human Resources Development
IT	Information Technology
MMS	Maintenance Management System
MWI	Ministry of Water and Irrigation
NARUC	National Association of Regulatory Utility Commissioners
O&M	Operations and Maintenance
OMS	Operations Management Support Project
PFR	Prefeasibility Report
PMS	Personnel Management System
PMU	Project Management Unit
PSP	Private Sector Participation
R&R	Rehabilitation and Renewal
SCADA	Supervisory Control and Data Acquisition
TM	Technical Manager
TOR	Terms of Reference
UFW	Unaccounted-For Water
WAJ	Water Authority of Jordan
WWTP	Wastewater Treatment Plant

## EXECUTIVE SUMMARY

This report presents an organization and staffing plan for the new Aqaba Water Company. The report is the product of extensive review and discussion with Water Authority of Jordan Headquarters and WAJ Aqaba officials of a first draft prepared by TAPS in March 2003.<sup>1</sup> It is expected that the transition from current to proposed staff size and composition would occur over the years of 2004 to 2006. It is anticipated that the 2006 staffing pattern would remain applicable for several years thereafter.

The current WAJ Aqaba organization into five departments: rural area service, city water service, wastewater service, customer service, and finance/administration, is sensible and appropriate for WAJ Aqaba's current functions. However, field investigations reveal several problems. First, the formal structure does not reflect the actual distribution of functions and responsibilities. Second, certain functions, particularly in the area of finance and administration, have not been fully developed, reflecting the centralization of these functions in the larger WAJ organization. In addition, near-term challenges including the operation and maintenance (O&M) of new wastewater treatment and reuse facilities, and the decentralization of capital works responsibilities, call for organization and staffing adjustments.

The proposed organizational structure of AWC builds upon the current structure of WAJ-Aqaba. In the proposed organizational structure, the wastewater department is expanded, a specialized maintenance department is introduced, the finance/administration department is reorganized and strengthened, and new units for engineering and water quality control are established. The four main O&M units are brought under a Technical Manager/Deputy General Manager. The main elements of the suggested structure are illustrated in the following chart, together with their 2006 staffing levels.



<sup>1</sup> Chemonics International, *Proposed Organization and Staffing of the Aqaba Water Company: Strategies and Plans*, Technical Support for Procurement and Project Management and Private Sector Participation to the Ministry of Water and Irrigation, Water Authority of Jordan, and the Jordan Valley Authority, March 2003

The report presents a position classification scheme comprised of nine job groups and compares actual versus required numbers in each group. Results are summarized in the table below.

### Summary of Staff Balances

<b>Job Group</b>	<b>Planned</b>	<b>Actual</b>	<b>Excess (Deficit)</b>
Professional	33	16	(17)
Skilled Technical	77	48	(29)
Skilled Clerical	25	16	(9)
Semi Skilled	56	47	(9)
Unskilled	81	119	38
Totals	272	246*	

\* Actual current WAJ Aqaba staff is 261, but May 2003 WAJ personnel data are insufficient to categorize 15 individuals.

The preliminary assessment aims only to indicate broad staffing imbalances. Appraisal of each current WAJ Aqaba employee is necessary to determine detailed staffing balances throughout the organization.

The preliminary analysis indicates shortages in all but the Unskilled job group. On the other hand, close analysis of the WAJ personnel database indicates that as many as 25 of the employees classified as Unskilled have vocational training credentials which may qualify them for certain Semi-Skilled or even Skilled positions.

Detailed appraisal and training needs assessment should make particular efforts to identify the potentials for rapid graduation of Unskilled workers to Semi-Skilled positions and of the best of the current Semi-Skilled workers to Technician positions. USAID-provided O&M assistance in first year O&M of the wastewater system provides an important opportunity for on-the-job training to supplement classroom training, as well as visits to plants outside Aqaba which WAJ may be able to provide. Also important to AWC is the need to operate Supervisory Control and Data Acquisition (SCADA) technology and to integrate the technology into the organization of maintenance and repair work. Finally, WAJ may be able to provide training in mechanical and electrical maintenance and repair. These strategies can assist in preventing an imminent shortage of skilled operators and technicians, but as the current Semi-Skilled employees themselves are insufficient, some new recruitment may be necessary. Outsourcing of Wastewater Treatment Plant (WWTP) O&M and/or maintenance in general is another option.

Key managerial appointments include the General Manager and the Finance and Administration Manager. As many as ten Specialists and Supervisors may need to be recruited, particularly those with expertise in finance, administration, engineering, and water quality functions. TAPS recommends that six positions be recruited prior to the start of Company operations:

- General Manager
- Finance and Administration Manager
- Accounting/MIS Supervisor
- Cashier
- Human Resources Supervisor
- Engineering and Projects Supervisor

Recruitment of remaining Specialist and Supervisory positions can be deferred until 2005 if the board so decides.

TAPS is preparing job descriptions to assist WAJ in staff appraisal, job evaluation, recruitment, and training needs assessment. The labor-intensive work of staff appraisal, job evaluation, and training needs assessment can be assigned to a committee or set of committees composed of WAJ HQ and WAJ Aqaba professionals. In terms of employment policies, Jordanian labor law covers several of the topics listed in the Assignment Agreement relative to employer/employee rights and duties. The AWC Board should focus its personnel policy formulation energies on strategies to attract, retain, and motivate qualified employees. Suggested strategies for retaining professionals include profiling for individuals who have personal interest in long-term residence in Aqaba, and for young graduates who seek professional satisfaction from the opportunity to work in a small but technologically advanced water/environmental management organization. As recent WAJ experience shows, it will be necessary to pay competitive, market-level salaries to attract qualified Professional and Skilled personnel.

## SECTION I

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### INTRODUCTION

A set of key legal and institutional benchmarks for Aqaba Water Company (AWC) formation was provided in Section 9 of the TAPS Aqaba Water Company Prefeasibility Report (PFR)<sup>2</sup>. In addition to these benchmarks, a list of capacity-building requirements was set out in PFR Section 7.4 covering:

- Development of O&M systems and procedures.
- Development of customer service systems and procedures.
- Design and installation of financial management system.
- Design and installation of human resource management system.
- Development of a five-year AWC business plan.

The purpose of the present report is to initiate the design of the AWC human resource management system, beginning with organizational and staffing requirements. Section Two reviews and updates the findings of the PFR regarding the structure and functioning of the Board of Directors. Section Three outlines an organizational design responsive to AWC's priority near-term objectives of financial and administrative decentralization, water loss reduction, effective maintenance, and management of a greatly expanded wastewater system. Section Four provides functional descriptions for each of the principal units in the proposed organization structure and their staffing patterns. Section Five compares the current WAJ Aqaba and suggested AWC staffing patterns to identify areas of imbalance. Section Six sets out next steps for human resource related elements of the WAJ Aqaba – AWC organizational transition.

The Organization and Staffing Plan may be regarded as the first volume of a four-volume AWC Organization Manual. The subsequent volumes are:

- Volume II: Job Descriptions
- Volume III: Compensation and Benefits
- Volume IV: Personnel Policies and Procedures.

It is important to note that the staffing levels presented in the plan assume that the company will perform most functions in-house. This assumption is intended to facilitate subsequent comparisons of in-house vs. outsourcing alternatives. A function which AWC's Board may wish to consider outsourcing include O&M of the new wastewater treatment plant - a promising candidate for outsourcing in view of current WAJ Aqaba Staff shortages in the Skilled technical job group, as discussed below.

The plan was developed in close cooperation with WAJ. A desk study setting out the proposed organization and basic staffing needs and based on PFR research was prepared in February 2003 and reviewed by WAJ HQ and Aqaba officials in June 2003. The second version was reviewed thoroughly by the WAJ ASG for Administration and Human Resources, the WAJ ASG for Aqaba, the three WAJ Aqaba Department Managers, the WAJ Aqaba GIS Specialist and a WAJ Aqaba accountant at a TAPS workshop in Aqaba on 22-23 September 2003 (A summary of the discussions at Aqaba is given in Annex A).

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<sup>2</sup> Chemonics International, *Aqaba Water Company Prefeasibility Report*, Technical Support for Procurement and Project Management and Private Sector Participation to the Ministry of Water and Irrigation, Water Authority of Jordan and the Jordan Valley Authority, January, 2003.



The staffing balances analysis in Section Five is considerably more refined and detailed than that in previous editions of the plan and includes specific position and class level recruitment and training recommendations. Another new feature of the present version of the plan is the analysis of AWC staffing needs by year to enable staging of required recruitment and training actions.

## **SECTION II**

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### **EVALUATION OF MANAGEMENT STRUCTURES**

WAJ Aqaba management structures were reviewed in the TAPS Aqaba Water Company Prefeasibility Report. The principal management-structural flaw is the centralization of the WAJ organization, in which WAJ Aqaba is merely a field office which operates and maintains the water and wastewater systems and performs billing and collection tasks. WAJ Aqaba retains no revenues, and all but a tiny fraction of WAJ Aqaba expenditure is controlled at WAJ HQ. WAJ Aqaba is also dependent on WAJ HQ for technical services such as projects and capital repair.

Despite the operational difficulties and lack of incentive posed by centralized management, WAJ Aqaba performs well by many relevant performance indicators such as collection efficiency, UFW reduction, and unit cost. The positive performance results from three factors:

- The diligence and competence of WAJ Aqaba top management (the Assistant Secretary General and his four line managers).
- Procurement, training, and technical assistance in network maintenance management and computerized billing provided through the GTZ OMS Project until March 2001.
- A favorable market situation of low water supply and wastewater treatment costs in addition to a large proportion of high-volume users paying non-domestic tariff rates.

The engineering and financial analyses in the PFR showed that the utility's years of low O&M cost are largely behind it. In water supply, MWI/WAJ plans to charge JD 0.25/m<sup>3</sup> for water pumped from the utility's main water source in the Disi Wellfields. In wastewater, a complex water reclamation facility designed to provide both secondary and tertiary removal is planned for operation by early 2005 (This has been updated in light of the MOU, please refer to AWC CC Meeting # 7 Notes).

The utility therefore faces sharp labor, electricity, and bulk water cost increases. The PFR concluded that the operational and financial challenges call for decentralized management following best commercial practices, and recommended establishment of a limited liability company under the ownership of WAJ and other government shareowners such as ASEZA.

Best practices in corporate governance were also reviewed in the PFR (PFR Section 7.3). These include:

- Separation of ownership and management functions
- Separation of ownership and regulatory functions
- Company exposure to market forces
- Firm company property rights

The composition of the Board of Directors was noted as critical to proper governance. As key stakeholders, MWI, WAJ, and ASEZA would be represented.

TAPS recommends that the AWC General Manager also be included on the Board of Directors. Although some theorists of corporate governance posit that the accountability of the executive management to the board is compromised if members of the executive management are included on the board, others argue that the benefits of practical experience with day-to-day utility

activities, constraints, and opportunities which the General Manager can bring to the board's deliberations outweigh this risk.

It is understood that the Board will have a membership of seven, in keeping with experience in other GOJ public utility corporatizations. Although TAPS originally recommended that some private sector experts in utility engineering, finance, and management be included on the board, the MWI/WAJ/ASEZA MOU composes the Board of four members from MWI/WAJ including the Chairman of the Board, two from ASEZA, and one from the Ministry of Finance.

## SECTION III

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### ORGANIZATION DESIGN

The current WAJ Aqaba organization is shown in Figure 3.1<sup>3</sup>. TAPS advisors believe that the basic structure, i.e., the four Directorates plus the Quwayra Office, is a sensible one, and our structure for the medium-term organization builds upon it.

The principal weaknesses of the current WAJ Aqaba organization are imbalances in workload and shortages of qualified staff. These factors relate to one another as imbalances in workload are the result of *ad hoc* assignments of responsibilities to persons with relevant skills regardless of whether the responsibility matches the formal position. Beyond this, staffing shortages are absolute in many areas: the WAJ Aqaba Administrator has observed that several of the “sections” shown in WAJ’s “standard” organization chart for small utilities are inappropriately staffed or in some cases not staffed at all.

Our principal organizational recommendations respond to current staffing shortages and near-term challenges posed by requirements for management and operation of new facilities, systems and programs.

#### ❖ 3.1 Immediate Needs

##### **Institute an engineering planning and control function.**

With corporatization, the AWC utility will become responsible for investment planning and project implementation, a responsibility formerly performed by WAJ HQ. As expansion of the wastewater system is being funded by USAID, the major focus of the utility’s capital improvement efforts for the next several years is likely to be the water distribution network. The geographic information system (GIS) is central to the process of identifying the parts of the network which are hydraulically or structurally flawed, so the GIS will constitute the core of a new Engineering Office which will also include specialists in preparation and evaluation of engineering terms of reference and procurement specifications. The GIS will also be used to assist the O&M departments in planning and monitoring network maintenance tasks.

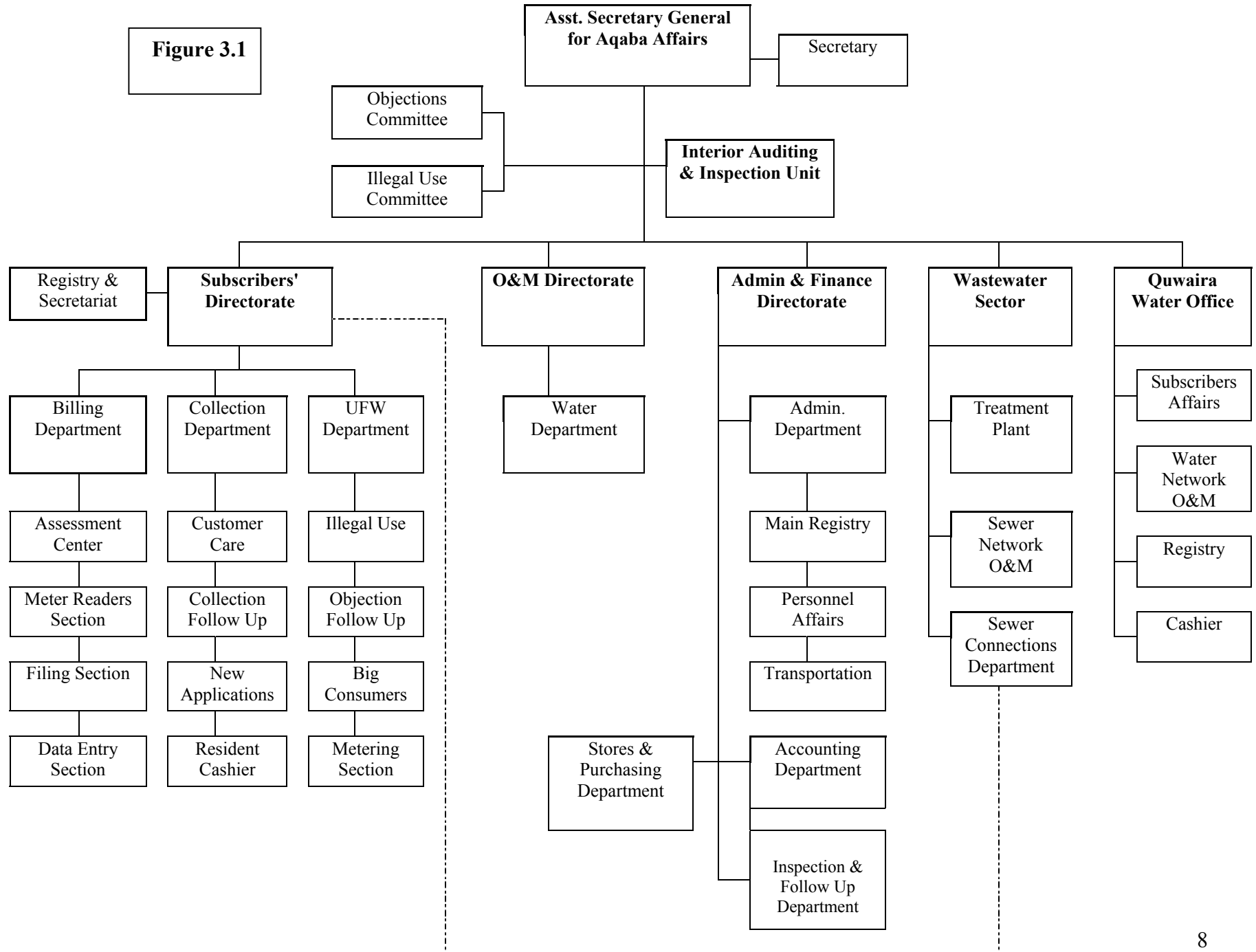
##### **Upgrade and expand the Finance and Administration Directorate.**

The PFR noted that WAJ Aqaba has no accounting, purchasing, or human resource management responsibilities, though it has administrative responsibilities for storekeeping and fleet management. AWC will be financially and administratively autonomous, in addition to being responsible for all specialized technical services. We are recommending that a professional Finance and Administration Department be established, with four sections:

- Accounting/Management Information Systems
- Purchasing and Stores
- Office Services
- Human Resources

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<sup>3</sup> It should be noted that the boxes shown beneath the “Directorate” level in Figure 3.1 are sometimes merely functions rather than formal units.

**Figure 3.1**

### **Provide information technology support services.**

AWC should be able to provide information technology support services for systems integration and software revision, as well as network administration, data security, and Information Technologies (IT) maintenance and training. As noted in PFR Section 7.2, the GTZ OMS Project provided WAJ Aqaba with a Geographic Information System (GIS), a Maintenance Management System (MMS - for the networks only i.e., not for mechanical and electrical works), and a computerized billing system. Supervisory Control and Data Acquisition (SCADA) Systems are being provided by USAID to enable “remote” control of wastewater pumping and treatment operations as well as for Aqaba city water distribution operations, and it is expected that AWC will install SCADA to control rural sourceworks. Under a WAJ-wide initiative, a comprehensive Oracle-based financial management program is being installed in WAJ Aqaba. Needs will arise for integration of all the utility’s systems as well as customizing financial and administrative system applications to reflect AWC’s accounting, billing, or personnel codes.

### **❖ 3.2 Near-Term Needs**

With major wastewater system expansion works under construction, AWC faces the challenge of managing an environmentally important and nationally unique *water reclamation* system. The current wastewater stabilization pond, which is virtually O&M-free but only capable of handling some 25 percent of the current demand for wastewater disposal, will become only one component in a wastewater treatment and reuse system which includes mechanical and biological treatment at one end, and treated effluent pumping and distribution at the other. Effective reuse is a key element of Jordan’s water management strategy, so the Aqaba water reclamation facility will attract great policy and regulatory interest. Moreover, reuse sales can partly offset increased wastewater pumping and treatment costs. Maintaining regular and reliable flow rates throughout the city’s water and wastewater systems is an important condition for the financial and environmental success of the facility.

Three organizational improvements are needed to sustain this major expansion in responsibility:

#### **Strengthen the O&M of the wastewater pump stations.**

Problems in the operation of the pump stations were noted in PFR Section 4.1. A maintenance management system and program for the pumps is recommended. Sewer maintenance/repair needs will increase as the collection system expands in response to the new treatment capacity. Needs for structural renewal and replacement (R&R) should be combined with hydraulic analyses conducted with the aid of the GIS to develop a medium-term R&R program with the aim of stabilizing flow rates and minimizing back-ups.

#### **Manage a water reclamation system.**

The importance and dimensions of this function have been reviewed above. USAID typically provides financing for one or two years of operation of new facilities, but it is important that AWC provide complementary personnel. Moreover, it is much to AWC’s advantage to make managerial, supervisory, specialist, and technical personnel available to benefit from on-job experience. It is in fact recommended that AWC Staff be present on site during the later stages of construction to observe the plant’s construction.

The novelty, visibility, and financial importance of the water reclamation facility make it a prime candidate for contract operation through management contract or lease.

### **Strengthen the water quality control function.**

At present, WAJ Aqaba performs basic chemical and bacteriological tests on drinking water and pond effluent. When the water reclamation facility begins operation, the utility will need to monitor a wastewater treatment process involving several stages. In addition, expansion of the collection system will result in increased demand for sewer connections by industries on the South Coast. Since expansion of sewer coverage to large users represents a major potential source of new revenue for AWC, the utility will need to be able to monitor the discharges of these users to assure that these wastes do not damage the sewers or affect the biological treatment processes at the wastewater plant. For these reasons, the organizational design recommends the establishment of a special Water Quality Control Office.

### **❖ 3.3 Organization Structure**

The recommended organization structure is shown on Figure 3.2. Functions and staffing of the major organizational units are outlined in Table 3.1.

The units responsible for operation and maintenance of the utility's water and wastewater facilities report to a Technical Manager (TM), who reports to the General Manager (GM). The TM position is intended to remove the burden of day-to-day facility operations management from the GM and to keep the number of positions reporting to the GM within reason. The TM will serve as Deputy General Manager.

Readers familiar with the first draft of the AWC Staffing Plan will notice that a specialized maintenance section responsible for preventive mechanical and electrical works and vehicle maintenance has been added to the O&M organization. For proper cost accounting, it will be necessary for the utility's work order, purchasing, and timesheet systems to enable the allocation of Maintenance Section costs to the appropriate cost centers.

It should be noted that the structure of the Wastewater Department differs somewhat from that of the other departments. In typical departments, the majority of the staff is grouped into Sections and report to a section head, usually a person of the "Supervisor" job class. The Wastewater Department has a subordinate Section (Sewers), but many of the Department Staff work directly under the Department Manager who thus plays a role which is both managerial and supervisory. The reason for this type of structure is that there was no economic or technical justification for establishing an intermediary supervisory position for the functions in question.

The "Rural Department" of the first draft has been renamed "Quwayra Department" for the sake of clarity, since this Department will be responsible for the O&M of local water networks only in the Quwayra District of the Aqaba Governorate and not in the other rural district, Wadi Araba. Readers unfamiliar with the geography of the Governorate should understand that there are no road connections between Quwayra and Wadi Araba; hence there is no logistical benefit to serving the Wadi Araba villages from the Quwayra Department center. Nor is Wadi Araba demand, presently only 600 customers, sufficient to justify establishment of a formal Wadi Araba Department, though a mobile maintenance team will be posted to one of the villages in the district, most likely in Risha Village. Wadi Araba services will be managed by the main Water Department.

The Quwayra Department's day to day meter reading and collection activities will fall under the administrative control of the Quwayra Department Manager, but these activities are technically dependent on the computerized billing system in Aqaba, and Quwayra customer services will

follow the policies and procedures of the main Customer Services Department and be subject to its technical supervision.

The Water Department will manage the main Disi Wellfield pumping and storage operations. Although the Wellfield is physically located in Quwayra District, it supplies Aqaba City only.

USAID-funded capital improvements include SCADA systems for the wastewater treatment and pumping facilities and the city distribution network. It is assumed that the Company will purchase and install SCADA for the Disi wells, pumps, reservoirs, and transmission line.

Customer cash collections by the Customer Service Department and the Quwayra Customer Service Section will be rendered daily to the Finance and Administration Department.

The plan assumes that the utility will provide 24-hour emergency service response to all city customers. The Customer Service Department's Customer Relations Section will be staffed to receive and route service calls continuously. Supervisory responsibility for the evening and night shifts will rotate on a daily or weekly basis among the four main O&M Managers—the Technical Manager, the Water Department Manager, the Wastewater Department Manager, and the Maintenance Supervisor.

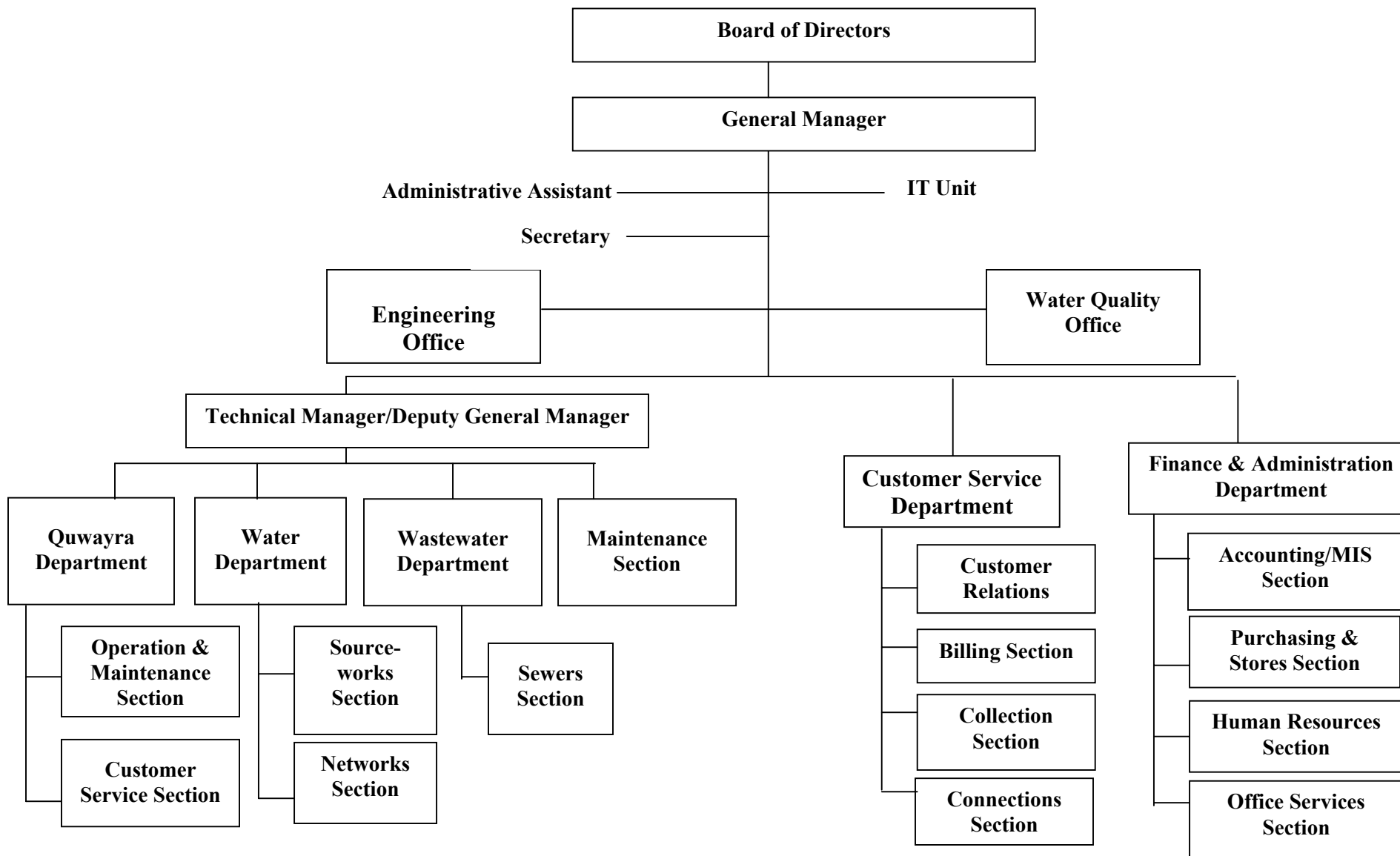
Remaining features and assumptions in the plan may be noted in brief:

- A formal internal auditing function is not provided. The company will have an external auditor responsible for auditing compliance with standard accounting definitions, procedures, and controls. Some internal auditing functions over stores and billing have been included in the responsibilities of the Accounting Section. Control over operational performance is a standard managerial responsibility, and adequate provision for operational performance monitoring is provided in the management hierarchy and the various information systems of the utility.
- It has been assumed that most O&M personnel will do their own work-related driving using Company vehicles. A driver has been included in the Quwayra Department Customer Service Section to accompany the person carrying Quwayra cash receipts to Aqaba. A pool of drivers will be available on call in the Office Services Section of the Finance and Administration Department.
- Guards are assigned to the main office building and the main and meter stores. Most other facilities are expected to be staffed on a 24 hours, seven days a week basis. The guards are shown under the Office Services Section in the Finance & Administration Department.

Finally, it should be noted that the apparently high level of Finance & Administration Department staffing (38 persons) reflects the fact that small pools of typists, guards, drivers, and office boys are administratively “housed” in the Office Services Section of that department. “Core” finance and administrative staff account for 24 persons, less than 10% of the total suggested 2006 Company staffing of 272 (or 2004 staffing of 256).



**Figure 3.2 Proposed Aqaba Water Company Organization**



**Table 3.1 Main Organizational Units and their Responsibilities**

<b>Unit</b>	<b>Functions</b>	<b>Total Staff</b>
<b>ENGINEERING OFFICE</b>	<ul style="list-style-type: none"> <li>• Monitors distribution and collection system flows</li> <li>• Evaluates hydraulic and structural conditions of networks</li> <li>• Prepares TORs for design and construction services</li> <li>• Oversees engineering design and construction services</li> </ul>	8
<b>WATER QUALITY OFFICE</b>	<ul style="list-style-type: none"> <li>• Monitors quality of significant inflows and outflows</li> <li>• Evaluates the effectiveness of treatment processes</li> <li>• Plans sale or disposal of treatment residuals</li> </ul>	7
<b>QUWAYRA DEPARTMENT</b>	<ul style="list-style-type: none"> <li>• Operates Quwayra local water stations</li> <li>• Maintains distribution systems</li> <li>• Accounts for, bills, and collects Quwayra water sales</li> <li>• Implements new water connections</li> </ul>	28
<b>WATER DEPARTMENT</b>	<ul style="list-style-type: none"> <li>• Controls and maintains the main Disi-Aqaba transmission system</li> <li>• Maintains Aqaba city and Wadi Araba water distribution systems</li> <li>• Maintains rural sourceworks</li> </ul>	67
<b>WASTEWATER DEPARTMENT</b>	<ul style="list-style-type: none"> <li>• Drains and transports wastewater</li> <li>• Treats collected wastewater</li> <li>• Distributes or disposes of treated effluent</li> </ul>	44
<b>MAINTENANCE SECTION</b>	<ul style="list-style-type: none"> <li>• Plans and implements preventive maintenance programs for mechanical and electrical machinery, equipment, and vehicles in all locations</li> <li>• Assists operating Departments in specialized repairs</li> </ul>	11
<b>CUSTOMER SERVICE DEPARTMENT</b>	<ul style="list-style-type: none"> <li>• Accounts for water and sewer service sales</li> <li>• Issues bills and collects payments</li> <li>• Implements connections, disconnections, reconnections</li> <li>• Serves as principal point of contact with utility customers</li> </ul>	59
<b>FINANCE AND ADMINISTRATION DEPARTMENT</b>	<ul style="list-style-type: none"> <li>• Coordinates budget processes and implements budget controls</li> <li>• Maintains financial and cost accounts</li> <li>• Manages purchases and issues payments, including payroll</li> <li>• Provides office services</li> <li>• Coordinates planning and implementation of HRD programs</li> </ul>	38

## SECTION IV

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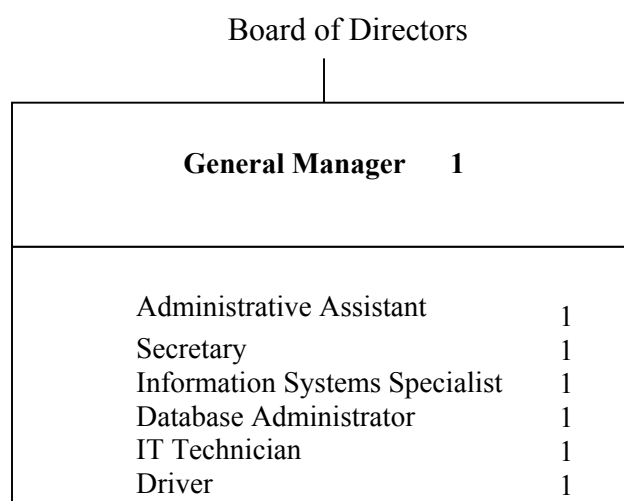
### FUNCTIONAL DESCRIPTIONS

This section presents the responsibilities of each of the ten principal organization units which comprise the suggested AWC structure, discusses the internal structure of the units, and reviews staffing assumptions and norms. Detailed staffing tables for all units are provided in Annex B.

#### ❖ 4.1 General Manager's Office

The General Manager's Office assists the General Manager in his/her roles in strategic planning, management, and control. The organization and staffing of the General Manager's Office is shown in Figure 4.1.

**Figure 4.1 Organization and Staffing of the General Manager's Office**



#### **General Manager**

The role of the General Manager is to:

- Ensure that the Company achieves its fundamental objective of providing safe and continuous potable water supply and wastewater disposal services throughout its service area as efficiently as possible.
- Oversee the planning, management, monitoring and control of the Company, ensuring that it conforms to the guidelines laid down by the Board and external regulatory bodies, and maintain effective technical and financial control.
- Report to the Board and other authorities concerned with the performance and progress of the company.

#### **Administrative Assistant**

- Arrange the schedule of Board meetings, and coordinate the preparation of Board papers by Directors.
- Maintain files of Board agendas, minutes, and decisions, and maintain an “action file” on all Board inquiries and recommended actions.

- Coordinate preparation of the Business Plan and monitor its implementation.
- Coordinate the production and distribution of the Annual Report.
- Provide editing and quality control of Company publications and reports and manage document preparation and reproduction.

#### **Secretary**

- Maintain the General Manager's agenda and arranges the GM's logistical needs.
- Provide typing, filing, and other secretarial duties for the GM.

#### **Information Technology Unit**

- Ensure operation and maintenance of the Company's computer hardware and networks.
- Prepare specifications for computer hardware purchases.
- Provide troubleshooting and training on Company computer systems and operation.
- Continuously enhance the level of integration and capacity for data exchange among the company's systems (GIS, SCADA, MMS, billing, financial and administration systems, etc.).
- Edit off-the-shelf software applications for conformity to the Company's accounting, revenue, organizational, and personnel classifications and codes.
- Ensure safety and security of company databases.
- Troubleshoot and maintain software applications, and upgrade the skills of users.

#### **❖ 4.2 Engineering Office**

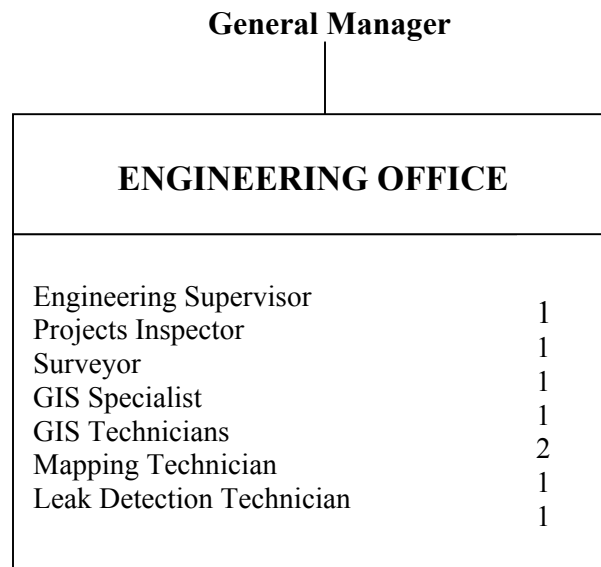
The Engineering Office is responsible for 1) regular evaluation of the hydraulic and structural performance of the water distribution and wastewater collection networks; 2) technical assistance to the operating Departments in planning systematic preventive network maintenance programs; and 3) planning and managing the utility's capital improvement programs and projects.

The Engineering Office is required to:

- Assist the Water and Wastewater Departments in the assessment of needs for capital improvements, extension and rehabilitation works and in the preparation of terms of reference for engineering design and construction management services.
- Prepare technical specifications and design drawings for small works.
- Provide quality assurance over the work of design and construction contractors.
- Develop standards for water and sewer system maps, collect existing drawings from the Departments, and return them to the Departments with requirements for additional data.
- Enter as-built drawings into the GIS base maps.
- Identify points for installation of flow meters.
- Maintain and expand GIS capacities to capture and make use of data on the hydraulic and structural conditions of the distribution and collection systems through developing overlays on locations of leakage, pipe breaks, water quality problems, pressure problems, water consumption by distribution zone, collection system flows by pump station command area, etc.
- Plan and implement a systematic, proactive leak detection program and issue leak repair work orders to the appropriate Department.
- Assist the Customer Service Department to optimize meter reading and billing routes.

The Engineering Office is headed by an Engineering Supervisor capable of preparing technical specifications and responsible for 1) design and construction management of small rehabilitation and renewal projects; and 2) the procurement and management of engineering design and construction supervision services for large projects. A Projects Inspector is responsible for construction and inspection of new projects and assisted as appropriate by engineers and supervisors from the operations Departments. A GIS group provides information with which the utility identifies cost-effective network rehabilitation and upgrading projects, as well as information to support demand forecasting and network maintenance programming.

**Figure 4.2 Engineering Office Organization and Staffing**



#### ❖ 4.3 Water Quality Office

The Water Quality Office is responsible for regular sampling and testing of all significant water inflows and outflows of the drinking water and water reclamation systems.

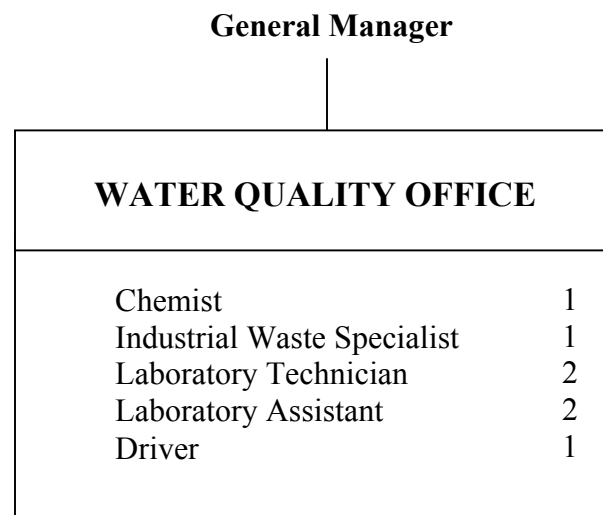
The Water Quality Office is required to:

- Assemble and maintain an up-to-date collection of international, national, and local water quality standards applicable to raw water sources, drinking water supply, wastewater treatment and disposal, reuse, and industrial wastewater discharge permitting.
- Define the frequencies for sampling of various water facilities and sources, the required analytical parameters and methods, and the sampling points.
- Prepare plans and budgets for the utility's water quality monitoring programs, including the preparation of TORs for sampling and analysis programs to be contracted out.
- Review and approve all requests for sewer connections by industrial users.
- Review, approve, and monitor implementation of industrial pretreatment compliance plans.
- Report instances of substandard water quality to the GM, and conduct follow-up investigations as requested.
- Investigate sources of contamination or pollution of local water sources, and recommend remedies to the GM.

- Prepare regular reports on drinking, effluent, and reuse water quality.
- Periodically review treatment process control data, and recommend improvements in reporting and/or process control.
- Advise the Wastewater Department on the zoning and allocation of reuse water supplies and effluent disposal.
- Advise the GM on public health requirements regarding public access to reuse and disposal sites.

The Office is headed by a Chemist who must be knowledgeable of GOJ standards and regulations for drinking water and wastewater treatment, reuse, and disposal as well as standard methods for sampling and testing. An Industrial Waste Specialist will plan and manage an industrial wastewater monitoring program to ensure that industries which discharge pollutants which can damage sewers or negatively impact biological treatment processes take appropriate remedial measures as a precondition of access to the utility's sewers. A team of lab technicians and assistants supports the Chemist and the Industrial Waste Specialist.

**Figure 4.3 Water Quality Office Organization and Staffing**



#### ❖ 4.4 Technical Manager/Deputy General Manager

As noted above, a Technical Manager position is recommended in order to enable the General Manager to focus on:

- Overseeing the formulation of procedures and systems to implement Board policy and business plan objectives.
- Integration of the Company's information systems and application.
- Integration of new financial and administrative systems into company activities.

The Technical Manager will be responsible for overall planning, coordination, and control of activities in the Quwayra, Water, Wastewater, and Maintenance Departments. The Technical Manager will serve as deputy general manager, subject to such authority limits as may be set by the Board.

The responsibilities of the Technical Manager are to:

- Develop policies and standards for O&M and communicate them to O&M Managers and Supervisors.
- Assess the performance of the O&M Departments and Sections against targets and initiate actions to remedy shortcomings.
- Reallocate Staff on a temporary basis in response to emergencies or special circumstances.
- Approve contingency plans to cope with operations emergencies and instruct Staff on emergency response policies and procedures.
- Assess occupational safety conditions and develop safety plans and programs.
- Set priorities for training of O&M Personnel.
- Ensure that accurate and comprehensive O&M records are kept.

#### ❖ 4. 5 Quwayra Department

The Quwayra District of Aqaba Governorate contains approximately ten villages located along the Aqaba-Amman highway and the Rashdiya-Al Ghal road leading to Ma'an Governorate. These villages are served by ten groundwater wells and pumping stations. There are approximately 2,000 subscribers, and the network is being expanded in several villages. Quwayra, the District Capital, is a sizable town. WAJ Aqaba has established an office in the town to manage the District water supply operations, read meters, collect payments, and supervise new connection installations. The district office also has two water delivery tankers. Meters are supplied from WAJ Aqaba's meter store in Aqaba, and meter readings are entered and bills generated in Aqaba. Hence, the Quwayra District Office operates for all day-to-day purposes as a mini-utility in its own right, albeit under the technical supervision of the main Aqaba Office.

The Quwayra Department is required to:

- Operate Quwayra District rural water stations.
- Maintain Quwayra District rural distribution systems.
- Account for and collect Quwayra District water sales.
- Inspect new water connections.

The proposed Department has an O&M Section responsible for distribution systems and operation of rural sourceworks and a customer service section responsible for meter reading, collection, connections, and trucked water delivery. Maintenance/repair of Quwayra District water sourceworks will be performed by Water Department Technicians stationed in Disi.

#### **Operations and Maintenance Section**

The functions of the Section are to:

- Operate local public water source works.
- Repair and maintain water distribution pipelines.
- Supervise laying and rehabilitation of water mains.
- Assemble as-built drawings and maps of water pipelines, send them to the Engineering Office for entry to the GIS, and respond to Engineering Office requests for additional mapping detail.
- Record and report plant and zone flow meter data.
- Conduct periodic night-flow measurements.

### **Customer Service Section**

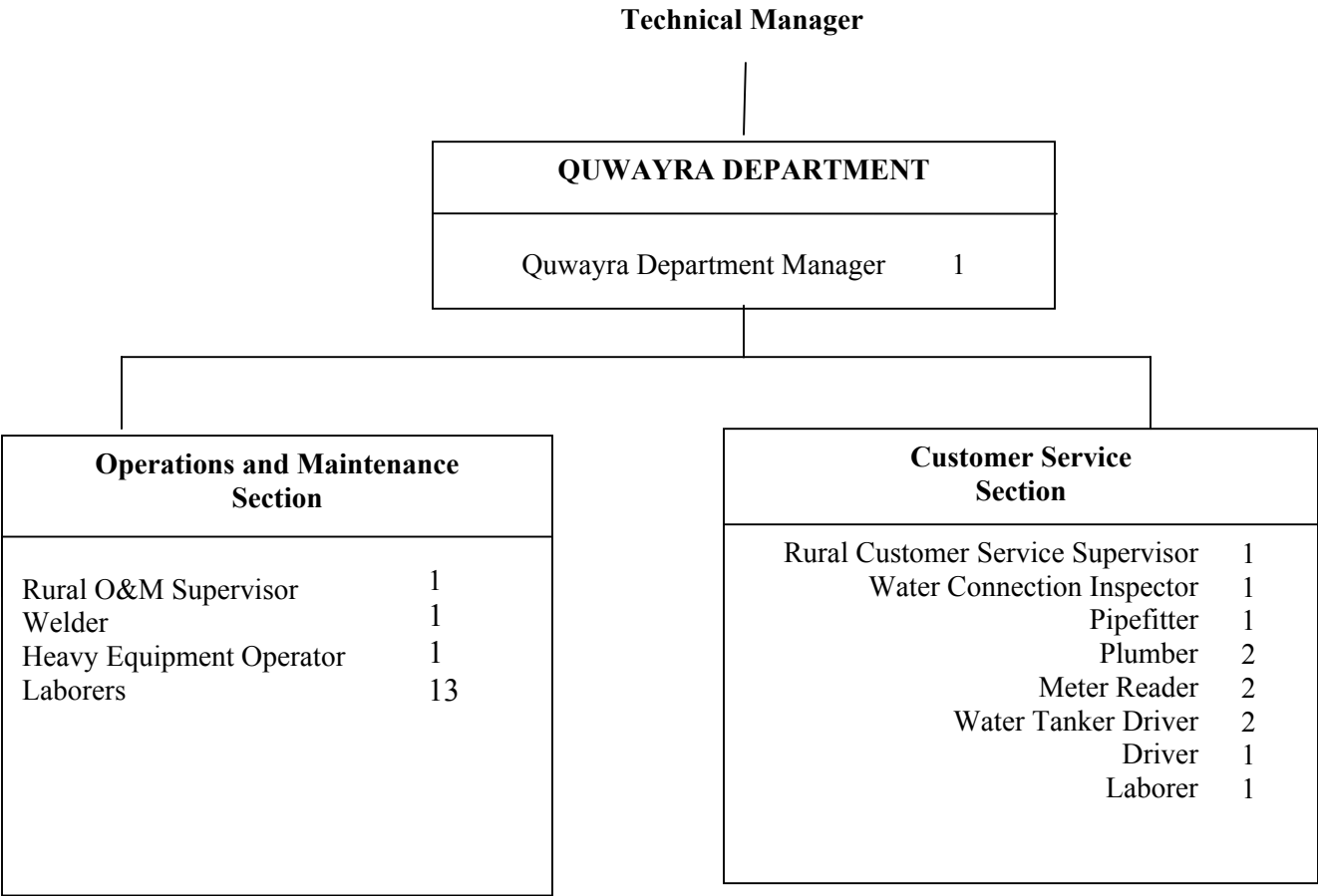
The functions of the Section are to:

- Receive and understand requests, complaints, and reports of service problems, and forward them to the appropriate Section Manager.
- Follow up utility response to requests and complaints.
- Approve and maintain drawings of service connections.
- Supervise new connections.
- Install and remove meters.
- Receive payments.
- Assist clients to complete applications for new connections.
- Assist customers to prepare requests for installment plans.
- Read customer meters, and report readings to the Billing Section in Aqaba
- Deliver bills and payment warnings.
- Report problems of meter accessibility and signs of meter underperformance or sabotage to the Customer Service Department in Aqaba.
- Detect and remove illegal connections.
- Report signs of leakage.
- Receive requests for trucked water delivery, receive payments, and deliver services.

A crew composed of Water Department Technicians, Laborers, and a Heavy Equipment Operator based in Disi will be responsible for emergency repairs and regular preventive maintenance of Quwayra wells, pumps, and reservoirs. The Quwayra Customer Service Section will have meter readers/collectors, a Connections Team responsible for new connections approval and inspection, disconnections and reconnection, and water tanker drivers.



Figure 4.4 Quwayra Department Organizations and Staffing



#### ❖ 4.6 Water Department

Water Department organization is complex. The Department is required to operate the city distribution system, the Disi-Aqaba City sourceworks and transmission line, and several small and self-standing village water schemes in Wadi Araba District, as well as to provide maintenance and repair assistance to the many small sourceworks in Quwayra District. The proposed organizational structure of the department into two sections---Sourceworks and Networks---is easy to understand; the challenge is to grasp how the staffing and organizational structure maps onto the various locations in which the Department will be active. Table 4.1 lays out the arrangement in table form, Figures 4.5 and 4.6 in chart form.

**Table 4.1 Water Department Organization, Staffing, and Staff Locations**

Section	No.	Staff Locations		
		City	Wadi Araba	Disi
<u>Department HQ</u>				
Water Department Manager	1	1		
SCADA Operators	4*	4*		
Heavy Equipment Operators	2	2		
<i>Subtotal, HQ</i>	7	7	0	0
<u>Networks Section</u>				
Networks Supervisor	1	1		
Plumbers	7	6	1	
Welders	4	3	1	
Drivers	3	2	1	
Laborers	14	12	2	
<i>Subtotal, Networks</i>	29	24	5	0
<u>Sourceworks Section</u>				
Sourceworks Supervisor	1	1		
Electrical Technicians	2		1	1
Mechanical Technicians	2		1	1
Pipefitters	2		1	1
Welders	2		1	1
Drivers	1			1
Laborers	19		13	6
<i>Subtotal, Sourceworks</i>	31	1	18	12
<b>TOTALS</b>	<b>67</b>	<b>32</b>	<b>23</b>	<b>12</b>

\* Not needed until 2005

One of the Heavy Equipment Operators could be located in Disi if the workload justifies it.

The network staffing is based on a notion of six city teams (two on each shift), each composed of one plumber and one laborer, and assisted by a driver and welder on each shift.

Wadi Araba water supply O&M includes maintenance and repair of the wells, desalination units, and networks in the District. With only 600 customers, the Wadi Araba District does not yet have sufficient workload to justify establishing a separate Department such as Quwayra's. In order to increase the Company's responsiveness to Wadi Araba customers, a fully staffed maintenance team will be stationed in Risha Village, approximately at the midpoint of the main road along which the six Wadi Araba Villages are located.

A resident Maintenance Team will also be situated in the Disi Wellfield area to conduct maintenance and emergency repairs to the main Disi wells, pumps, and reservoirs.

The Disi wells and reservoirs and Disi-Aqaba transmission line will be operated automatically and monitored by SCADA systems. Requirements for emergency transmission line repairs will be assessed by the Water Department Manager but could be implemented by maintenance teams from Aqaba, Disi, or even Quwayra, depending on the nature and location of the break.

The WAJ Aqaba management reports that most city pipeline breaks occur at night when consumption decreases and pressures in the network increase. MMS records indicate an average of five leakage- and breakage related repair requests per 24 hours in Aqaba City.

The main office of the Department operates the SCADA systems and allocates work among the sections according to SCADA and MMS generated work orders and the requirements of the systematic valve exercising and leak detection program schedules developed in coordination with the Engineering Office. The Department Manager (or the Utility night-shift Manager) is responsible for allocation of the Department's heavy equipment.

### **Sourceworks Section**

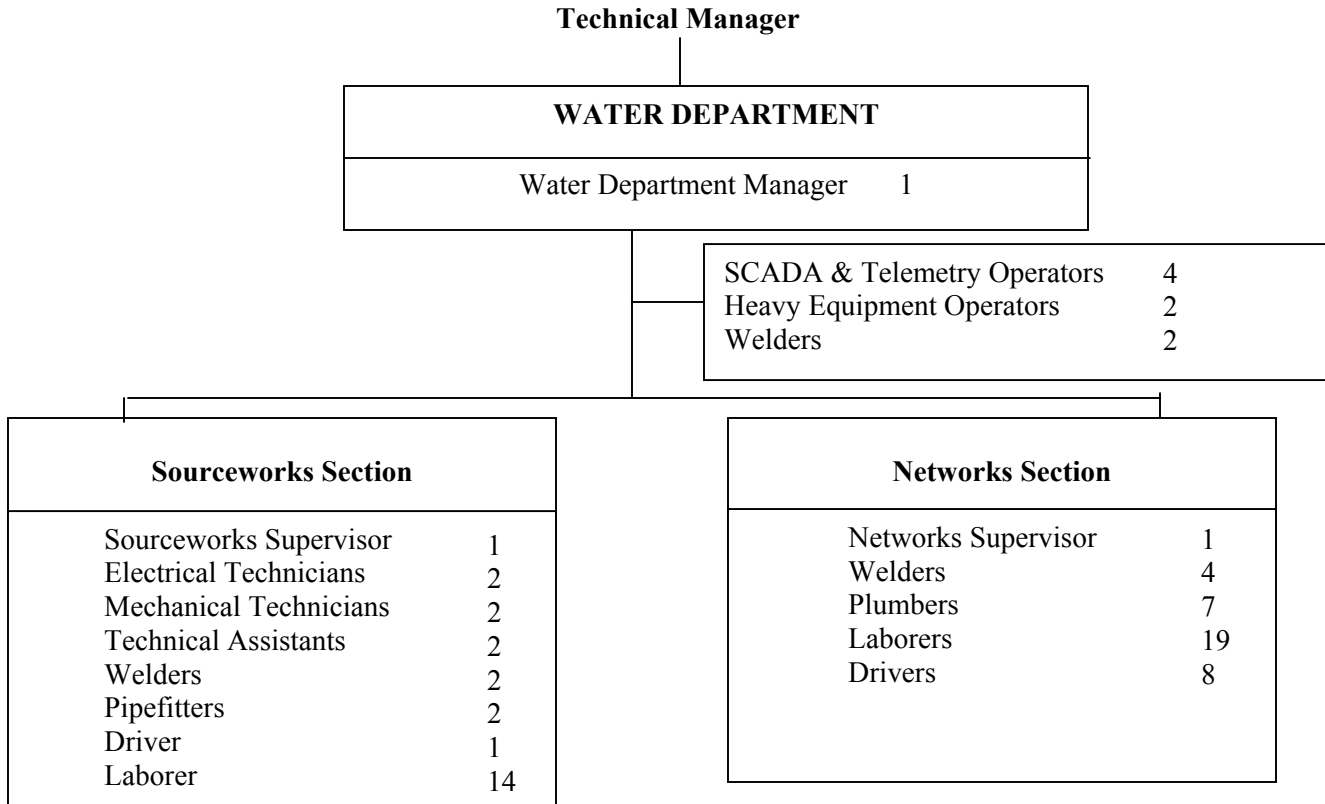
The Sourceworks Section is required to:

- Operate and maintain Disi wells, pumps, and reservoirs.
- Maintain Wadi Araba and Quwayra wells, pumps, and desalination units.
- Maintain Disi flow records.

### **Networks Section**

The Networks Section is required to:

- Repair leaks and breaks in the Aqaba City and Wadi Araba District distribution networks.
- Locate, exercise, and replace valves in the City and Wadi Araba networks.
- Report all breaks to the Engineering Office.
- Carry out repairs to the Disi-Aqaba transmission line.

**Figure 4.5 Water Department Organizations and Staffing****Figure 4.6 Water Department: Staff Locations**

<i><b>Aqaba City</b></i>	
Water Department Manager	1
SCADA & Telemetry Operators	4
Sourceworks Supervisor	1
Networks Supervisor	1
Heavy Equipment Operators	2
Welders	3
Plumbers	6
Laborers	12
Drivers	2

<i><b>Wadi Araba</b></i>	
Electrical Technician	1
Mechanical Technician	1
Technician Assistant	1
Pipefitter	1
Plumber	1
Welder	2
Laborers	15
Driver	1

<i><b>Disi Wellfields</b></i>	
Electrical Technician	1
Mechanical Technician	1
Technician Assistant	1
Pipefitter	1
Welder	1
Laborers	6
Driver	1

#### ❖ 4.7 Wastewater Department

The Wastewater Department's functions are to:

- Drain and transport wastewater.
- Inspect new sewer connections.
- Treat collected wastewater.
- Distribute or dispose of treated effluent.

Conventional wastewater utility organization design separates collection systems from treatment. The installation of SCADA in the new wastewater treatment plant (WWTP) makes it possible for the wastewater pumping stations to be controlled centrally and for mechanical and electrical maintenance for both treatment and pump stations to be entrusted to a single team. A Sewers Section within the Department will handle sewer repair and maintenance (New connections will be arranged and inspected by the Customer Service Department).

As noted in Section 3.3, the structure of the Wastewater Department is asymmetric: there is a Sewers Section headed by a Supervisor, but the Treatment and Pumping Staff are affiliated directly with the Department Manager without constituting a Section, as there is no need for a Treatment and Pumping Supervisor in addition to the Department Manager. The treatment and pumping operations are largely automated and are run by operators ("Operator I" class), who may be considered shift supervisors in a general sense. The Department Manager is responsible for coordinating the entire collection, treatment, reuse, and sludge disposal process, and for mobilizing sewage pumping and reuse system repair crews. The Wastewater Treatment Process Engineer is a specialist responsible for regular monitoring of the treatment process and for working with the Chemist in the Water Quality Office to optimize the treatment process. A Control and Instrument Technician will be responsible for upkeep of the wastewater SCADA system. A Mechanical Technician and an Electrical Technician will carry out preventive maintenance and be on-call for emergency repairs. A Heavy Equipment Operator will be responsible for loading and transporting sludge.

The treatment and pumping functions of the Department are to:

- Maintain continuous and efficient sewage pumping operations.
- Record and report sewage flows and power use.
- Operate and maintain wastewater treatment facilities.
- Provide a regular supply of effluent suitable for industrial and specified agricultural uses.
- Assure sanitary land-based disposal of all sewage received at the plant.
- Operate and maintain effluent distribution and disposal systems.
- Operate and maintain sludge dewatering and disposal.
- Respond to emergency service complaints of reuse customers, and report all reuse complaints and requests to the Engineering Office.

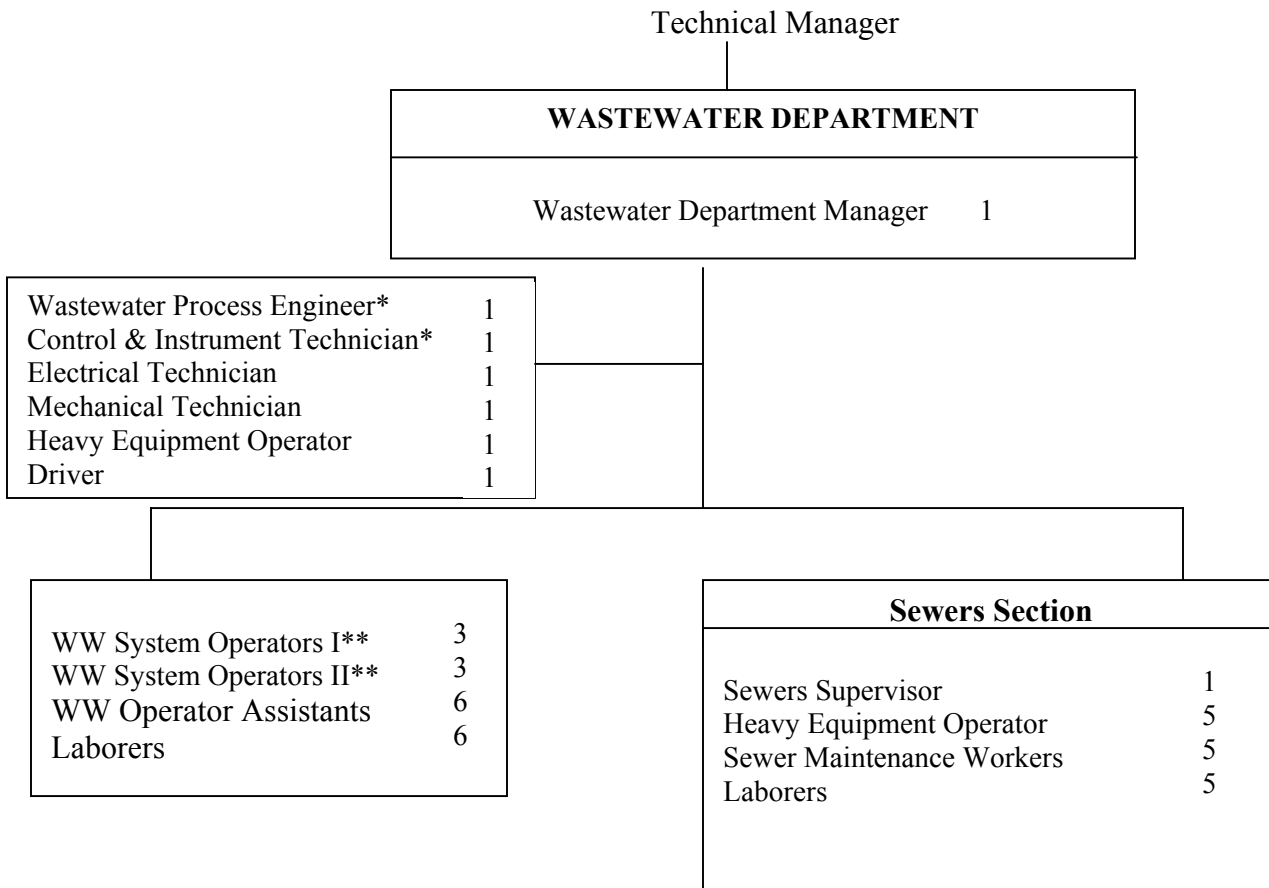
Sewers Section functions are to:

- Perform deblocking and line repairs.
- Operate a mechanical preventive sewer cleaning program.

MMS reports an average of ten deblocking requests per day. WAJ officials set high priority on preventive mechanical sewer cleaning in order to reduce blockages and stabilize flows to the new WWTP. As a result, they have asked for two sets of mechanical cleaning crews on each of the day and night shifts, plus a similarly composed day-shift Team to respond to emergency deblocking requests, for a total of five crews each composed of a Heavy Equipment Operator (Jet Truck Driver and Crew Foreman), Sewer Maintenance Worker, and Laborer.

The staffing levels shown in Figure 4.7 represent totals for three pumping and treatment operations shifts per day and two sewer maintenance shifts.

**Figure 4.7 Wastewater Department**



\* Not needed until 2005

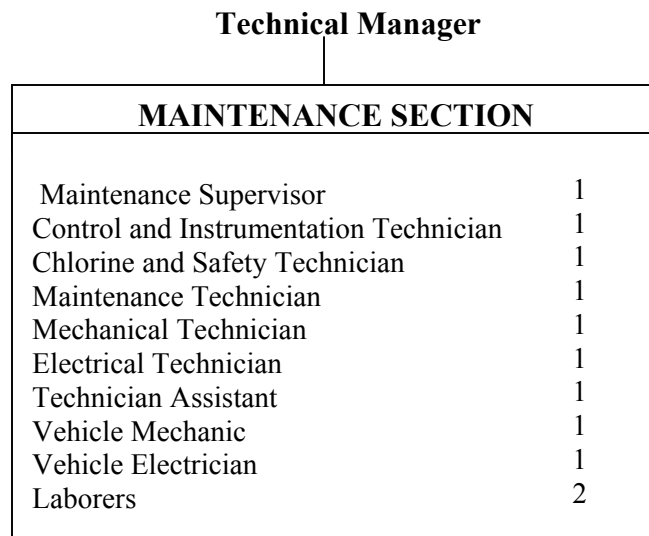
\*\* One Operator I needed in 2004, the remaining five Operators needed in 2005

#### ❖ 4.8 Maintenance Section

This Section will be responsible for development and implementation (or oversight) of planned preventive maintenance programs, specialized maintenance, and repair of mechanical and electrical equipment, and for managing maintenance of all the Company's vehicles (It is expected that most vehicle repair and specialized maintenance will be performed by local private-sector workshops). It will also be on call to provide additional technician and heavy equipment operations support in case of major failures at a main facility such as Disi or the WWTP.

The section reports directly to the Technical Manager/Deputy General Manager. The Chlorine and Safety Technician will serve as the utility's principal Safety Officer and Trainer, in addition to his/her technical duties.

**Figure 4.8 Maintenance Section**



#### ❖ 4.9 Customer Service Department

The Customer Service Department will be responsible for implementing the Company's policies and procedures regarding customers and connections, including:

- Receipt and approval of requests for new connection.
- Receiving and recording all messages from customers regarding service interruptions or problems, routing these messages to the appropriate Section of the Company, and following up remedial actions by the Company.
- Meter reading, billing for customer water/sewer service and other fee-based customer services, and collection of amounts due.
- Testing, maintenance, and replacement of meters.
- Implementation of new connections and reconnections.
- Investigation and correction of unauthorized uses of Company water/sewer services, including the implementation of disconnections.

The planned 2004 staffing is significantly higher than the June 2003 WAJ Aqaba level of about 30. The proposed increase in staffing reflects the expanded task requirements and additional work processes required by the recent shift to computerized billing, decentralization to AWC of the governmental customer accounts collection responsibility formerly performed by the WAJ HQ, and the following organizational strategies:

- Responsibility for connections/disconnections is to be shifted from the Water and Wastewater O&M Departments to the Customer Service Department in order to consolidate responsibilities and resources for connections and usage control under a single Department.
- Contacts with customers regarding all types of service problems will be routed through the Department alone, by a 24-hour Staff of trained Customer Service Representatives working from call desks which can access the utility's GIS, network maintenance management system (MMS), and customer information system (CIS).

The higher staffing level in the expanded Department also reflects challenges in the utility's operating environment subsequent to the 1998 tariff increase. WAJ Aqaba has the lowest levels of UFW in Jordan. The introduction of the MMS facilitated rapid identification of breaks and leaks in main lines. The source of much of the remaining UFW is attributed by WAJ Aqaba Managers to the more labor- and time-intensive problem of "illegal" use, including unauthorized reconnection by users disconnected for payment delinquency. WAJ Aqaba implements rigorous disconnection policies and follows disconnections up with frequent inspection of disconnected properties. In addition to disconnection, reconnection, and new connection activities, WAJ Aqaba field teams assess exceptionally high and low meter readings and inspect meters and connections when customers object to their bills. Table 4.2 below shows the average 24-hour load of WAJ Aqaba connections-related fieldwork.



**Table 4.2 Connections Workload**

<b>Activity</b>	<b>Cases Per Day</b>	<b>Field Team Work Rate (in cases per day)</b>
New connections	5	10
Disconnections	40	30
Reconnections	20	20
Inspections for possible illegal use	90-115	50
Usage assessment (at customer request)	15	25
Usage assessment (computer-generated)	10	20

### **Customer Relations Section**

The Customer Relations Section is required to:

- Receive and understand requests and complaints, and forward them to the appropriate utility Section.
- Follow up utility response to requests and complaints.
- Receive payments.
- Assist clients to complete applications for new connections.
- Assist customers to prepare requests for installment plans.
- Answer inquiries about rates, works in progress, utility public announcements, and educational materials.
- Participate in administering occasional surveys and communication campaigns.

The Customer Relations Section will be staffed by eight Customer Service Representatives (CSR) (including the Section supervisor) working in three shifts, with five CSRs on the day shift, two on the evening shift, and one on the night shift. Customers can make payments during the day and evening shifts; the night-shift CSR will only receive and route service requests.

### **Billing Section**

The Billing Section is required to:

- Read customer meters.
- Deliver bills, and receive payments.
- Report problems of meter accessibility and signs of meter underperformance or sabotage to the Connections Section.
- Report signs of leakage, sewer blockage, and possible illegal connections to the appropriate Section or Department.
- Enter meter readings and observation codes, and generate bills.
- Enter collection data and maintain customer accounts.
- Operate and maintain the customer information system (CIS), and generate management, statistical, and exception reports on meter condition, consumption, collections, meter reader performance, etc.

- Undertake reviews of customer records and accounts and/or field visits to investigate abnormally high or low readings or in response to customer objections.
- Maintain billing system interface with bank collections.
- Maintain customer files.

The Billing Section is staffed primarily of Meter Readers and Data Entry Clerks. A Team of Assessment Clerks will review and resolve computer-generated usage exception messages and customer objections and undertake field inspections if necessary to resolve cases which cannot be resolved by records searches. A Billing System Operator will work on day and evening shifts to respond to needs for special searches or reports, supervise data entries related to installment schemes or other types of special customer account actions, and troubleshoot data entry operations.

### **Collections Section**

The Collections Section is required to:

- Receive payment delinquency lists from Billing Section, check them against customer contact records and installment plan arrangements prepared in the Customer Relations Section, prepare documentation for disconnection cases, obtain approval, issue work orders to Connections Section and advise the Connections Section on the scheduling of disconnections for various types of customers, and receive confirmations of disconnections and reconnections implemented by the Connections Section.
- Manage all collection activities related to large and governmental customer accounts, including identification of preferred payment methods, negotiation of installment plans, payments tracking and updating of billing system records, and preparation of disconnection order documentation.
- Maintain files on pending objection and appeal cases, and follow up and monitor implementation of case reviews. “Translate” decisions regarding objections, illegal use penalties, and appeals into disconnection or reconnection orders and/or clear account instructions regarding installments, fees, penalties, or reimbursements, and follow up billing system entries and payment records.
- Follow up aged receivables accounts: evaluate customer accessibility and circumstances, recommend courses of action, and prepare documentation for application of instruments of recourse.

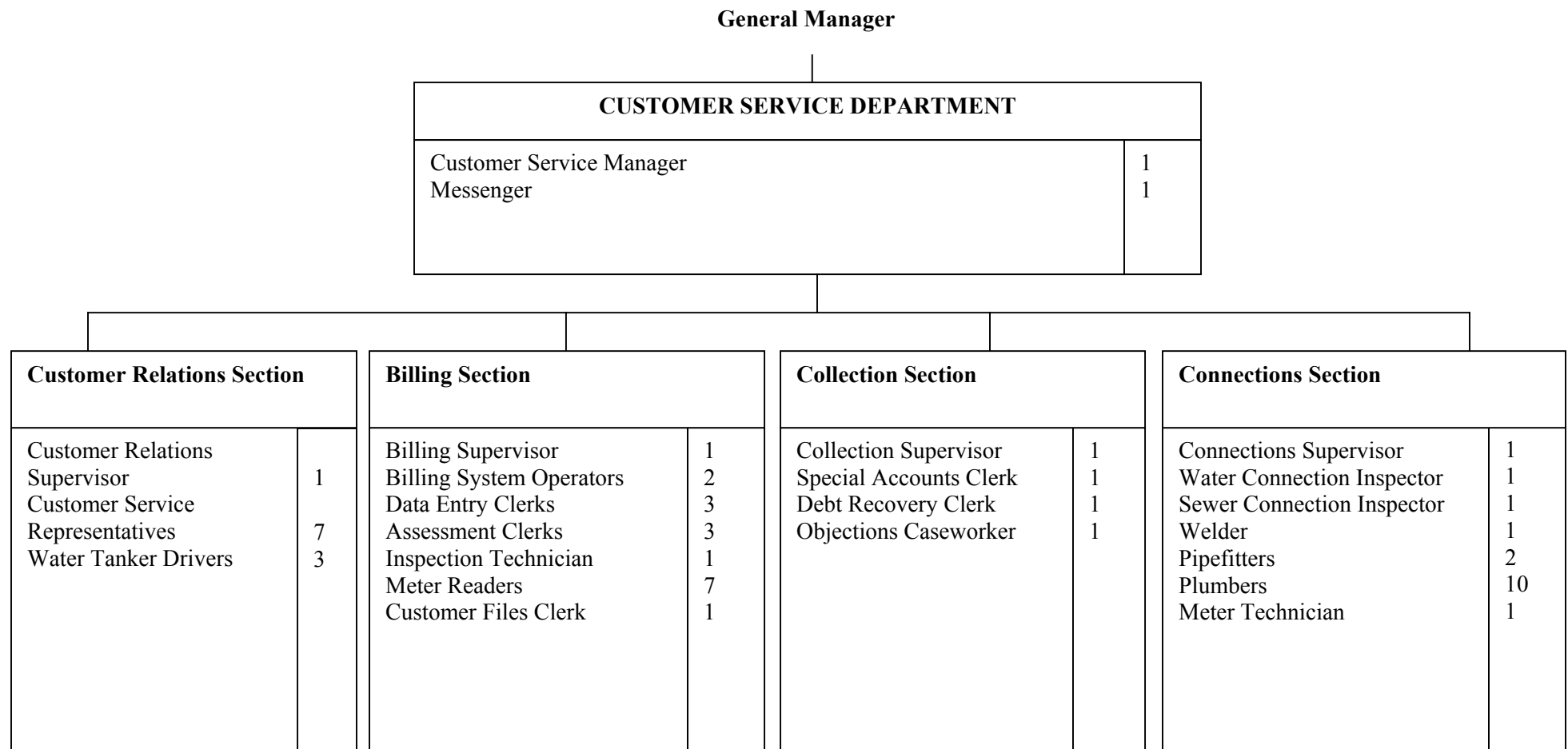
Each of these functions will be served by an Administrative Officer, or Clerk with *tawjihi* qualifications or an accounting diploma.

**Connections Section**

The Connections Section is required to:

- Prepare standards and specifications for connections, monitor customer compliance, and install meters on approved new connections.
- Implement approved disconnections and reconnections.
- Conduct field searches of possible illegal use.
- Clean, test, and calibrate meters, implement simple meter repairs, and assist in implementation of the Department's systematic meter replacement program.

Disconnection, reconnection, and illegal use Inspection Teams are composed of a Plumber and a Laborer, with a total of five teams. The new Connections Team will also include a Pipefitter and an Inspector. The utility is expected to continue to outsource most meter repair.

**Figure 4.9 Customer Service Department Organization and Staffing**

#### ❖ 4.10 Finance and Administration Department

The functions of the Finance and Administration Department are to:

- Coordinate budget processes and implement budget controls.
- Maintain financial and cost accounts.
- Manage purchases and issues payments, including payroll.
- Maintain stores and buildings.
- Provide office services.
- Coordinate planning and implementation of HRD Programs.

The Finance and Administration Department is composed of four Sections, whose functions are listed below. Note should be made of the role of the Accounting Section in managing all ledger entries, including customer sales, payroll, etc.

The Professional and Clerical positions in the Department have been formulated partly with a view to aligning the section structures to the structure of the FAS System. Such staffing accounts for most of the positions in the Accounting Section, two in the HR Section, and four in Purchasing and Stores (including the three Storekeepers). An administrative requirement not anticipated in the FAS solution is the need to develop and operate the Company's self-managed medical benefits plan.

##### **Accounting/MIS Section**

- Ensure that all Company Budget Managers understand the Company's financial policies and procedures.
- Assist Line Managers in preparing annual budgets.
- Input budget data, edit changes to budget, prepare quarterly budget reports, and prepare monthly expenditure reports for Line Managers.
- Enter commitments for approved purchases, and remove commitments as payments are made.
- Prepare payroll and payroll deductions, issue payroll checks/deposits, and ensure that Social Security payments are made.
- Administer Company self-managed medical insurance program.
- Maintain and update fixed assets register and project accounts.
- Issue approved payments to suppliers.
- Undertake periodic audits of stores, billing and collection, and other Company activities.
- Receive cash and ledgers from Customer Service Department, and enter cash into general ledger.
- Prepare financial statements.
- Prepare quarterly and annual reports on Company operational and financial performance.

##### **Purchasing and Stores Section**

- Receive approved purchase orders, manage procurement processes in accordance with the Company's purchasing policies and procedures, and monitor status of purchase orders.
- Notify the Accounting/MIS Section of acceptance of goods and services for payment.
- Assist Line Managers in the preparation of tender documents.
- Ensure that stores are well organized and that parts and materials are properly stored, shelved, and carded.

- Implement inventory management policies and procedures.
- Approve requisition orders, assuring that outflows are charged to the correct cost center.
- Monitor requisition rates for the various types of inventory.
- Identify and dispose of unused and unusable inventory.

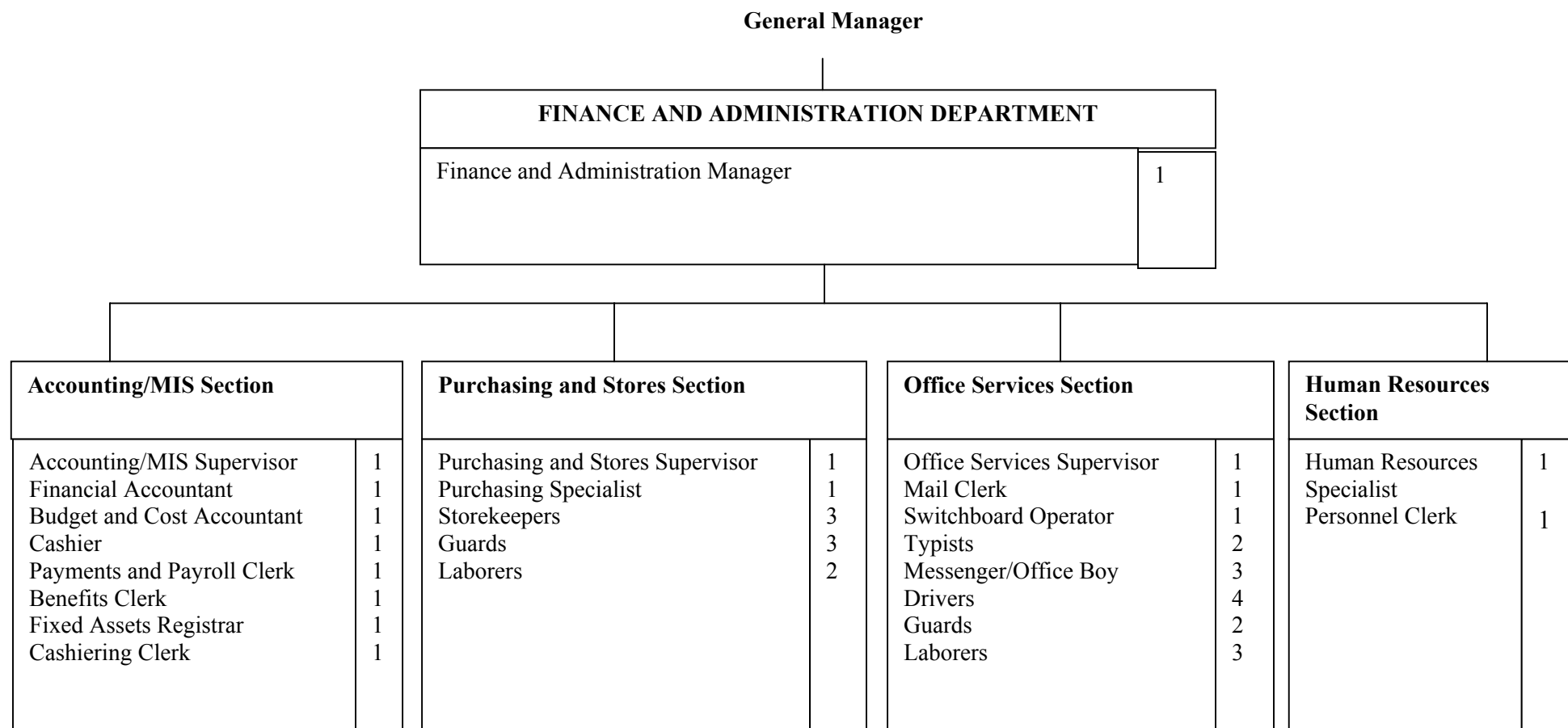
### **Office Services Section**

- Assist Line Managers to determine needs for office supplies and equipment.
- Supervise the secretarial, driver, guard, and messenger pools.
- Ensure maintenance of Company buildings, grounds, and office equipment.
- Draft and lead implementation of Company security policies and procedures.
- Manage telephone switchboard.
- Receive and distribute mail.
- Make arrangements for work-related out-of-town travel and for visits by outside guests.

### **Human Resources Section**

- Monitor and update the Company's Staffing Plan and position control system.
- Assist Managers in assessing their staffing requirements, improving work organization, and periodically reviewing the job descriptions of their subordinates.
- Periodically review labor supply and salary levels in local and national markets, and propose improvements to the Company's position classification and pay scales.
- Assist Company Management in the design of incentive structures.
- Train Managers in staff performance appraisal and training needs analysis.
- Coordinate preparation of annual training plans.
- Develop and maintain a database on training suppliers, arrange training provision, and assist managers to evaluate training.
- Prepare induction training plans for new employees, and explain Company personnel policies and procedures to new employees.
- Ensure that all Managers understand the Company's personnel policies and procedures.
- Receive, investigate, and assist in resolving staff complaints.
- Process personnel actions (e.g., hiring, promotion, discipline) and maintain personnel files.

The staffing levels for the Department posited in this plan are only indicative, since WAJ Aqaba has little experience in these functions upon which to base estimates of workload. The process of implementing the proposed new financial management system to be provided by the MWI/WAJ/USAID FAS Project should provide a "real-life" context through which the levels set out below can be revised as necessary.

**Figure 4.10 Finance and Administration Department Organization and Staffing**

## SECTION V

### STAFF BALANCES ANALYSIS

This chapter presents an initial assessment of the degree of “fit” between the planned AWC staffing and the current WAJ Aqaba Staff. The analysis is preliminary because the current job titles do not always provide enough information to draw equivalence to a job title in the plan. A close analysis of fit can only be developed after each WAJ Aqaba employee’s qualifications, knowledge, and skills have been matched to relevant job descriptions, and this will require a process of one-by-one appraisal of the current Staff; these matters are discussed further in Section 6 of this report. The intention of the preliminary staff balance analysis is to identify significant imbalances at the level of major job groups.

#### ❖ 5.1 Position Classification

A full description of the proposed AWC position classification system will be provided in the forthcoming TAPS *AWC Compensation and Benefits Plan* Report. For the purposes of the staff balances analysis, it is sufficient to understand that a position classification system organizes job titles into a matrix of occupational groups and job grades. Occupational groups are sets of positions which are engaged in a broadly similar type of work, e.g., Operators, Craftsmen, or Clerks, with broadly similar educational qualifications. Job grades cut across occupational groups to differentiate jobs within a group according to knowledge/skill requirements or level of responsibility. Typically, there is opportunity for career progression between the job grades in an occupational group, since experience can often substitute for the educational requirements of the higher graded job. In some cases, training may make it possible for an individual to progress through major classes, e.g., from the Skilled class to the Professional class. An outline of the structure of the proposed position classification is shown in Table 5.1.

**Table 5.1 Position Classification**

Class	Grade	Group
PROFESSIONAL	A1	Top Management
	A2	Supervisor I or Specialist I
	A3	Supervisor II or Specialist II
SKILLED TECHNICAL	B1	Operator I, Technician I, Craftsman I
	B2	Operator II, Technician II, Craftsman II
SKILLED CLERICAL	C1	Clerical I
	C2	Clerical II
SEMISKILLED	D	Semi-Skilled
UNSKILLED	E	Unskilled

Annex C provides the position class of each of the proposed AWC job titles.

#### Professionals

The Professional class includes Top Management, Supervisors, and Specialists.

Top Management includes the GM, Technical Manager/DGM, Customer Service Manager, and Finance and Administration Manager.



Supervisors include the Heads of the Water, Wastewater, and Quwayra departments, all Section Heads, and the Heads of Engineering and Water Quality.

Specialists are knowledge workers with a high degree of educational specialization and strong information management skills.

All Professionals must have university educations and basic computer skills; most Specialists need strong computer skills. Specialists also do much of the policy, procedural, and systems drafting. Most of the Specialists are in the Finance and Administration, Water Quality, and Engineering Departments.

Although the difference between Specialist and Supervisor work is meaningful, in practice some unit heads also require Specialist qualifications. Where a Specialist is also a unit head, the “Supervisor” title has been used, but the Specialist classification is retained for recruitment purposes. The combination of specialist and supervisory qualifications is considered in the position’s salary determination.

### **Skilled**

The Skilled super-class has two occupational groups—Technical and Clerical—each layered in two grades, I and II<sup>4</sup>. The Technical group has three sub-groups: Operator, Technician, and Craftsmen. Skilled positions in Grade I usually call for Diploma credentials and often require ability to operate computer systems; a few positions require a bachelor’s degree.

There are opportunities for progression in grade from the B2 level upward, as training and experience in a motivated employee may compensate for formal education. There are also opportunities for progress from Skilled I to Supervisor grade. Progress from Skilled II to Skilled I is some times constrained by the educational requirements of Skilled I positions (other than in the Craftsmen positions), so upgrades here will require close screening of Staff for candidates for extensive training.

### **Semi-Skilled and Unskilled**

These grades are hardly differentiated by WAJ Officials or the Civil Service position classification, where they are lumped together as a “Support” class. Nevertheless, there is a distinction to be made between positions such as Meter Reader or Heavy Equipment Operator in which experience contributes to productivity, and lesser positions such as Driver or Laborer in which productivity gains from experience are limited. Moreover, literacy is essential for most Semi-Skilled positions.

Within these two grades, salary differentials are based on working conditions (such as field vs. office environment) and physical effort (such as heavy lifting or intense visual concentration).

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<sup>4</sup> One participant at the September review observed a need for finer gradation *within* the Skilled I and II grades. In fact, the TAPS AWC benchmark salary structure includes several salary subgrades within the Skilled category, but they are not treated as formal grades because the intervals between the subgrades are not great.

## ❖ 5.2 Staffing Balances

Table 5.2 presents the summary staffing balances at the level of the AWC position classes. The assignment of the current WAJ Aqaba Staff to classes is based principally on current job title as shown in WAJ personnel database data provided in June 2003. The current job titles do not always indicate the knowledge, skill, or responsibility levels of the position (A tentative classification of the current WAJ Aqaba job titles is provided in Annex D). For the current WAJ Aqaba Professionals, acquaintance with the employees over the course of the TAPS Project and discussions with WAJ Officials have enabled a more precise, albeit still unofficial, assignment of personnel to AWC job titles.

Another important limitation of the analysis is that the June 2003 WAJ Personnel Database has detailed data for only 246 WAJ Aqaba Employees, while the actual WAJ Aqaba Staff is 261.

**Table 5.2 Staffing Balances, by Position Class**

Major Class	Class	Planned	Present	Excess (Deficit)
Professionals	Top Management	4	2	(2)
	Professional I	12	5	(7)
	Professional II	17	9	(8)
Skilled Technical	Technical I	28	14	(14)
	Technical II	49	34	(15)
Skilled Clerical	Clerical I	8	4	(4)
	Clerical II	17	12	(5)
Semi-Skilled	Semi-Skilled	56	47	(9)
Unskilled	Unskilled	81	119	38
TOTAL		272	246	

The following sections present a closer analysis of the class-level balances, subject to the limitations noted above.

### Top Management

It is expected that the four top management positions will be filled at the start of AWC operations.

The intention of WAJ at present is to appoint an Acting General Manager to oversee the AWC start-up and initial organizational strengthening. WAJ and TAPS are working together to find a qualified Finance and Administration Manager for AWC. It is understood also that the present WAJ Aqaba Administrator will be retained as AWC Technical Manager/DGM and that the present Subscribers Department head will serve as AWC Customer Service Department Manager.

### Specialists

Since this discussion is intended mainly to assist AWC in its recruitment and training planning, the distinction between the groups (Specialist and Supervisor) in the Professional class is more relevant here than the distinction between grades (Professional I and Professional II). Table 5.3 summarizes the situation in the Specialist class.

**Table 5.3 Specialist Group Balances**

<b>Planned Position</b>	<b>Current Equivalent</b>	<b>No.</b>	<b>Action</b>
Chemist			Recruit in 2004
Industrial Waste Specialist			Recruit in 2005
Database Administration	Database Administrator	1	
Information Systems Specialist			Recruit in 2005
GIS Specialist	GIS Specialist		
Human Resources Supervisor			Recruit in 2004
Financial Accountant	Accountant	1	Train in computer, FAS, and commercial accounting
Budget & Cost Accountant	Accountant	1	Training in computer, FAS, cost accounting, and program-based budgeting
Cashier			Recruit. Current “cashiers” have only clerical qualification
Wastewater Treatment Engineer			Recruit in 2005
Purchasing Specialist			Train current Bachelor of Law
Projects Inspector			Recruit

If close appraisal of the current staff supports these assignments, the utility will need to recruit four Specialists in 2004:

- Chemist
- Human Resources Supervisor
- Cashier
- Projects Inspector

And two more in 2005:

- Industrial Waste Specialist
- Wastewater Treatment Process Engineer

The Projects Inspector is a relatively junior position, and the company should be able to attract an Aqaba resident if a competitive salary is offered. The other recruitments are likely to require search outside of Aqaba.

### **Supervisors**

WAJ Aqaba currently has Staff working in the equivalents of the following AWC positions:

- Quwayra Department Head
- Water Department Head

- Wastewater Department Head
- Billing Section Supervisor
- Collection Department Supervisor
- Stores Department Supervisor

A young mechanical engineer recently hired in the Water Department may be qualified for the Water Department Sourceworks Supervisor Position. It is assumed that WAJ Aqaba also currently has a person suitable for the Water Department Networks Supervisor position.

WAJ Aqaba has another three employees classified simply as “Section Head” or “Branch Head”, including two with commercial or accounting school qualifications. These individuals may be trained to assume supervisory positions in Customer Service and Finance & Administration Departments, such as the Customer Relations Supervisor and Officer Services Supervisor positions.

It is likely that trainable WAJ Aqaba Employees can also be found for the following positions:

- Quwayra O&M Supervisor
- Quwayra Customer Service Supervisor
- Sewers Supervisor
- Connections Supervisor

If close appraisal of the staff supports these assignments, then the key shortages are the following:

- Engineering and Projects Supervisor
- Maintenance Supervisor
- Accounting/MIS Supervisor.

It is likely that the Maintenance Supervisor can be recruited from Aqaba; the other two positions may need be to be recruited from outside the Governorate.

### **Skilled Technicals**

The WAJ Database does not enable the current Skilled Technical jobholders to be allocated to grades, so our analysis is restricted to group balances within the subgroups of Operators, Technicians, and Craftsmen.

AWC Grade I Technicians and Operators run or maintain many of the computerized operating systems of the utility, including the GIS, the quality monitoring system, water and wastewater SCADA, and the billing system.

WAJ Aqaba has a Billing System Operator, a GIS Technician, and two other Computer Operators. It has one Lab Technician and four Operating Technicians.

The Utility will need eight SCADA Operating Technicians in 2005, a Mapping (AutoCAD) Technician, and a second Billing System Operator. The Utility already faces a shortage of trained Mechanical and Electrical Maintenance Technicians; WAJ Aqaba Managers believe qualified technicians can be found in the local market if market rates are paid. WAJ Aqaba has the Chlorine & Safety Technician. The total need of new Grade I Operator and Technicians is significant, i.e., on the order of 16 recruits, as follows:

	<b>Present</b>	<b>Planned 2004</b>	<b>2005</b>
Operators I	3	3	9
Technicians I	5	10	15

The Craftsmen I Group, which includes Connection Inspectors and Surveyors, is well represented in the current Staff. In the Craftsmen II group, there are small gaps which might be filled through training and job rotation:

	<b>Present</b>	<b>Planned 2004</b>	<b>2005</b>
Pipefitters and Plumbers	17	23	23
Welders	3	8	8

In the Operator/Technician II group, the utility will need six Wastewater Operators II in 2005; WAJ Aqaba fills all the Technician II positions already.

### **Skilled Clericals**

WAJ Aqaba has 16 employees with clerical group qualifications, but AWC will need 25. The 25 are of three types: Customer Accounting Clerks, Clerks responsible for FAS subsystems, and Customer Service Representatives (who operate the MMS). The Customer and Stores Clerk positions appear to be filled; the principal need is for training or recruitment for Clerical I positions to man the FAS Systems for fixed assets, payments/payroll, and personnel, a total of three positions, and the new Benefits Clerk position.

### **Semi-Skilled**

The Semi-Skilled group includes:

- Heavy Equipment Operators (7)
- Water Tanker Drivers (5)
- Other Drivers (12)
- Various Operator and Technician Assistants (9)
- Sewer Maintenance Workers (5)
- Meter Readers (9)
- Data Entry Clerks (3)
- Typists and Minor Clerks (3)

WAJ Aqaba has:

- 30 Drivers/Vehicle Operators
- 11 Meter Readers
- 2 Data Entry Clerks
- 4 Typists

The shortfall appears to be in the Operator/Technician Assistant positions; it is assumed that with proper selection and training, some of the excess Unskilled labor can be upgraded. Six of the Assistants are for the new WWTP.

**Unskilled**

The Unskilled class includes ordinary Laborers, Guards, and Office Boys. The WAJ Database includes 119 persons of Unskilled class (116 Laborers and 3 Guards). Examination of the educational data indicates that 25 of the current “Laborers” have technical school qualifications:

- 13 humanities (*adabi*)
- 7 industrial
- 4 scientific
- 1 commercial.

These 25 individuals should be selected and trained for Skilled or Semi-Skilled positions. The Company needs 81 Unskilled personnel, so the genuinely excess personnel in the class amount to only 13 persons ( $119 - 25 = 94 - 81 = 13$ ).

## **SECTION VI**

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### **WAJ AQABA-AWC HUMAN RESOURCE TRANSITION**

The flow chart shown in Figure 6.1 depicts major and intermediate milestones in the WAJ Aqaba – AWC human resources transition. The intermediate steps are listed in three streams: Selection, Recruitment, and Administration-with inter-stream dependencies as noted.

#### **❖ 6.1 Selection**

The Selection stream includes four milestones:

##### **Approval of AWC Organization and Staffing Plan.**

The preceding chapters constitute the third TAPS draft AWC Organization and Staffing Plan. The Plan has benefited from detailed review of the previous drafts with WAJ ASG for Administration and Human Resources and with the WAJ Aqaba ASG and Line Managers. The Plan now needs the review and approval of the AWC Board or GOJ WAJ-AWC transition Management Authority.

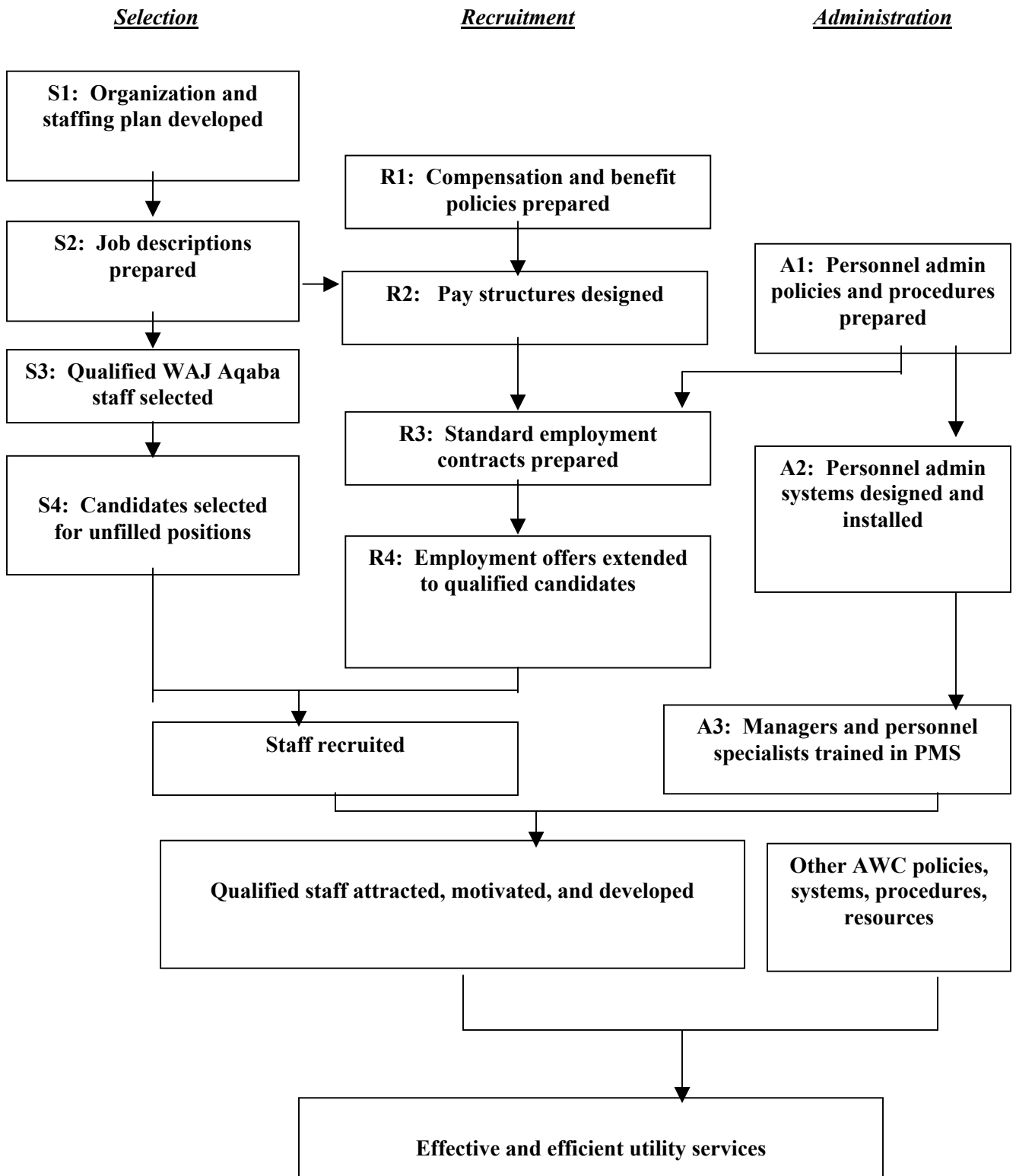
##### **Job Descriptions.**

TAPS is in the process of preparing job descriptions for all 88 job titles in the draft staffing plan. The job descriptions are detailed, covering responsibilities, supervisory relationships, knowledge/skill requirements, qualifications, and working conditions. The level of detail facilitates the use of the job descriptions for a variety of purposes: staff selection, recruitment, training needs assessment, and job evaluation.

##### **Appraisal of Current WAJ Aqaba Staff.**

The purpose of the appraisal effort is to determine which current WAJ Aqaba Employees are best suited for which AWC positions. The effort requires a review of each employee's qualifications, performance, and aptitudes against the relevant job descriptions, followed by a ranked listing of the AWC positions for which he/she is best suited. The appraisal process is time-consuming, so it is suggested that each Line Manager appraise the Staff under his/her supervision. The WAJ Aqaba Managers themselves would be appraised by a committee composed of relevant WAJ HQ subject matter Specialists, Human Resource Specialists, and the WAJ Aqaba ASG. The outcome of the appraisal process would be the Initial Staffing Plan. Once the table is prepared, the training needs of each individual can be assessed; this will contribute to the preparation of the first Training Plan. TAPS can assist in appraisal and training needs assessment.

Figure 6.1 WAJ AQABA – AWC Human Resources Transition Milestones





## **Selection for Vacant Positions**

Section Five above indicated that WAJ Aqaba is currently short of qualified personnel in most AWC job groups. While a final determination of vacancies requires formal appraisal of the current staff, TAPS' informal assessment indicates the following key vacancies in the following key positions

- Finance and Administration Manager
- Accounting/MIS Supervisor
- Cashier
- Human Resources Supervisor
- Engineering and Project Supervisor
- Maintenance Supervisor

These are all Professional positions. Early selection is advisable since these individuals can be charged with draft preparation of systems, policies, procedures, plans, budgets, and reporting mechanisms.

### **❖ 6.2 Recruitment**

Recruitment is the process of engaging job candidates, whether they are current WAJ Aqaba Employees or candidates selected from WAJ or the private sector. Candidates will wish to know the conditions of AWC employment, including:

- Compensation policies
- Opportunities for professional development
- Benefits

The compensation policies should set out salary ranges for each job group and grade, the types of allowance, and policies regarding annual raises, etc. These are several policy options with respect to each of these areas, e.g.:

- Should AWC continue to make significant percentages of gross pay dependent upon allowances of various sorts, or should greater reliance be set on a position classification and pay structure based on systematic job evaluation?
- To what extent can the purported reluctance of professionals to work in Aqaba be mitigated by provision of career development opportunities such as membership in professional associations, attendance at conferences, and support for tuition expenses, etc?

AWC employment policy is obviously dependent upon AWC strategies to attract and retain qualified personnel. The human resource strategy should be set by the AWC board or transition management group, which should be advised by the General Manager and the Finance and Administration Manager and informed by experience of successful GOJ public utility corporatizations. TAPS can provide guidelines on formal job evaluation methodology and outline employment policies from US utilities.

### **❖ 6.3 Administration**

This stream involves the preparation of policies and procedures regarding standard personnel actions (hiring, evaluation, discipline, grievances, etc) and the establishment of personnel files and records. TAPS can provide outline personnel policies from US utilities, modified as

necessary to conform to Jordanian Labor Law. Coordination with the USAID/MWI FAS Project is necessary to ensure that FAS organization and personnel codes are compatible with those of AWC. Key AWC counterparts include the Finance and Administration Manager, the Database Administrator, and perhaps the Information System Specialist.

**ANNEX A**

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**SUMMARY OF WAJ REVIEW MEETING RESULTS**

**Date:** 22 & 23 September 13-10-2003

**Place:** Movenpick Hotel Aqaba

**Purpose:** Review TAPS *AWC Organization and Staffing Plan and Accompanying Job Descriptions* (September 2003 edition)

**Participants from WAJ:**

- Eng. Kamal il-Zu'bi, Assistant Secretary General for Administration and Human Resources
- Eng. Imad Zureikat, Assistant Secretary General for Aqaba Affairs
- Eng. Jamel il-Riyati, WAJ Aqaba head of Wastewater Section
- Eng. Bilal il-Assi, WAJ Aqaba head of Water Department
- Eng. Naeem Saleh, WAJ Aqaba head of Customer Service (Subscribers) Department
- Eng. Mohamed il-Sakran, WAJ Aqaba GIS Specialist (23 September)

**Participants from Chemonics TAPS Project:**

- Mr. Jose Valdez, Technical Advisor
- Mr. Anthony Stellato, Institutional/Management Specialist

**Reporter:** Anthony Stellato, TAPS

**Organizational Terminology**

1. WAJ Officials prefer the English "Department" to "Division" for Arabic *mudiriya* and "Section" to "Department" for Arabic *qism*. The WAJ preference is applied in this version of the plan
2. Although a Section is normally part of a Department, WAJ Officials believe the terms also connote size; in particular, they prefer "Maintenance Section" to "Maintenance Department," though the Maintenance Section reports directly to the Technical Manager. However, the plan continues to call the Quwayra Unit a Department in view of its size and the combination of O&M and customer service responsibilities.

### **Specialists**

1. The requirement for 12 persons with “Specialist” job qualifications caused initial consternation among WAJ officials, but in the review sessions, WAJ Officials acknowledged the need for each of the Specialist positions set out in the plan.
2. WAJ recommends that the Information Systems Specialist and Wastewater Treatment Process Engineer appointments can be deferred until 2005.

### **Operation and Maintenance Staffing**

1. WAJ Officials suggested that the mechanical and electrical maintenance technicians assigned to the Water Department’s Sourceworks Section and stationed at the Disi Wellfield could provide M&E maintenance/repair services to Quwayra Department; hence six positions were taken off the Quwayra O&M Section Chart.
2. More crews were added to the Water Networks Section of the Water Department and the Sewers Section of the Wastewater Department.
3. Maintenance Section staffing levels were reduced; the utility expects to continue to use the local private sector for most vehicle repair.
4. SCADA Operator staffing (four persons) can be deferred until 2005.

### **Rural Area Staffing**

The rural areas of Aqaba Governorate pose significant operational and financial challenges for the Utility. There are approximately 16 villages in the two rural districts of Wadi Araba and Quwayra, with a total of 2600 customer accounts. The Settlement patterns follow the main roads, so the Villages, while easily accessible, are strung along two or three corridors, at considerable distance from one another and from Aqaba city. Added to the operational challenges of servicing small and distant water schemes are financial challenges which are a legacy of HKJ Bedouin Settlement policies. At some time during the reign of King Hussein, the Kingdom offered the Bedouin Settlements supplied with utilities as an incentive for them to abandon (or circumscribe) nomadism. The original settlers appear to have been exempted from paying water user charges, moreover a total of 36 were given employment as guards/operators at the rural sourceworks. WAJ Officials claim that the 36 hold these employment rights by royal fiat and that their employment cannot be terminated. They hold “Laborer” titles but are actually engaged as guards for the sourceworks and to notify the utility when the facility needs maintenance or repair. Fifteen are located at Wadi Araba Sourceworks, 15 at Quwayra sourceworks, and 6 at the Disi Wellfields. Two of the individuals in Wadi Araba are reassigned to network maintenance.

### **Customer Service Staffing**

1. Sewer connection inspection responsibilities were transferred to the Department from the Sewers Section of the Wastewater Department.
2. The number of Meter Readers was reduced from eight to seven, and the number of Special Account Clerks from two to one. The responsibilities of the Disconnections Clerk and the Debt Recovery Clerk were combined into a single Debt Recovery Clerk position.

3. Seven laborers were added to the Connections Section; they were inadvertently omitted in the second.

### **Finance and Administration Staffing**

1. Most of this discussion focused on the selection of type of medical coverage the company should offer to employees: civil service (government) insurance, contracting with a private insurance company, or a Company-managed plan. Following experience in the electricity distribution sector (both EDCO and JEPSCO), MWI/WAJ believe that the self-managed alternative provides the best value-for-money choice of the three.
2. For the self-managed medical insurance program alternative, the Plan adds a Benefits Clerk position. The jobholder would review charges for conformity to the schedule of charges agreed between the Company and the provider. If the contracts with the providers allow employees to assign payment to the provider, a junior clerk may be needed to keep back of provider accounts. TAPS recommends that the company engage one or more consultants to develop the local provider network, develop the service charges, and prepare the contracts.
3. The Aqaba workshop participants recommended that a Personnel Clerk be added to the HR Department to relieve the Human Resources Specialist (now Supervisor) of the work of processing routine personnel actions.
4. It is possible that an additional Payments & Payroll Clerk will be needed.

**ANNEX B****AWC STAFFING BY ORGANIZATION UNIT**

<u>Department - Section</u>	<u>Position</u>	<u>No.</u>	<u>No. Not Needed in 2004</u>
<b><u>GENERAL MANAGER'S OFFICE</u></b>			
General Manager's Office	General Manager	1	
General Manager's Office	Database Administrator	1	
General Manager's Office	Information Systems Specialist	1	1
General Manager's Office	IT Technician	1	
General Manager's Office	Administrative Assistant	1	
General Manager's Office	Secretary	1	
General Manager's Office	Driver	1	
<b><u>Subtotal, General Manager's Office</u></b>		<b><u>7</u></b>	
<b><u>ENGINEERING OFFICE</u></b>			
Engineering	Engineering & Projects Supervisor	1	
Engineering	GIS Specialist	1	
Engineering	Projects Inspector	1	
Engineering	Mapping Technician	1	
Engineering	Surveyor	1	
Engineering	GIS Technician	2	
Engineering	Leak Detection Technician	1	
<b><u>Subtotal, Engineering</u></b>		<b><u>8</u></b>	

<b><u>Department - Section</u></b>	<b><u>Position</u></b>	<b><u>No.</u></b>	<b><u>No. Not Needed in 2004</u></b>
<b><u>WATER QUALITY OFFICE</u></b>			
Water Quality	Chemist	1	
Water Quality	Industrial Waste Specialist	1	1
Water Quality	Laboratory Technician	2	
Water Quality	Laboratory Assistant	2	
Water Quality	Driver	1	
<b><u>Subtotal, Water Quality</u></b>	-	<b><u>7</u></b>	
<b><u>TECHNICAL MANAGER'S OFFICE</u></b>			
Technical Manager/Deputy GM's Office	Technical Manager/DGM	1	
Technical Manager/Deputy GM's Office	Secretary	1	
Technical Manager/Deputy GM's Office	Driver	1	
<b><u>Subtotal, Technical Manager's Office</u></b>		<b><u>3</u></b>	
<b><u>QUWAYRA DEPARTMENT</u></b>			
Quwayra	Quwayra Department Manager	1	
Quwayra - Customer Service	Rural Customer Service Supervisor	1	
Quwayra - Customer Service	Water Connection Inspector	1	
Quwayra - Customer Service	Pipefitter	1	

<b><u>Department - Section</u></b>	<b><u>Position</u></b>	<b><u>No.</u></b>	<b><u>No. Not Needed in 2004</u></b>
Quwayra - Customer Service	Meter Reader	2	
Quwayra - Customer Service	Water Tanker Driver	2	
Quwayra - Customer Service	Driver	1	
Quwayra - Customer Service	Laborer	1	
Quwayra - O&M	Rural O&M Supervisor	1	
Quwayra - O&M	Welder	1	
Quwayra - O&M	Heavy Equipment Operator	1	
Quwayra - O&M	Guard/Laborers (Quwayra wells)	13	
<b><u>Subtotal, Ouwayra</u></b>		<b><u>28</u></b>	
<b><u>WATER DEPARTMENT</u></b>			
Water	Water Department Manager	1	
Water	SCADA & Telemetry Operator	4	
Water	Heavy Equipment Operator	2	4
Water - Networks	Networks Supervisor	1	
Water - Networks	Welder	4	
Water - Networks	Plumber	7	
Water - Networks	Driver	3	
Water - Networks	Laborer	14	
Water - Sourceworks	Sourceworks Supervisor	1	



<u>Department - Section</u>	<u>Position</u>	<u>No.</u>	<u><i>No. Not Needed in 2004</i></u>
Water - Sourceworks	Mechanical Technician	2	
Water - Sourceworks	Pipefitter	2	
Water - Sourceworks	Welder	2	
Water - Sourceworks	Driver	1	
Water - Sourceworks	Technician Assistant	2	
Water - Sourceworks	Guard/Laborers (Disi wells)	6	
Water - Sourceworks	Guard/Laborers (Wadi Araba wells)	13	
<b><u>Subtotal, Water</u></b>		<b><u>67</u></b>	

**WASTEWATER DEPARTMENT**

Wastewater	Wastewater Department Manager	1	
Wastewater	Wastewater Treatment Process Engineer	1	
Wastewater	Wastewater System Operator I	3	
Wastewater	Control & Instrument Technician	1	1
Wastewater	Electrical Technician	1	2
Wastewater	Mechanical Technician	1	1
Wastewater	Wastewater System Operator II	6	
Wastewater	Heavy Equipment Operator	1	
Wastewater	Driver	1	6
Wastewater	Wastewater System Operator Assistant	6	
Wastewater	Laborer	6	

<u>Department - Section</u>	<u>Position</u>	<u>No.</u>	<u>No. Not Needed in 2004</u>
Wastewater - Sewers	Sewer Maintenance Worker	5	
Wastewater - Sewers	Heavy Equipment Operator	5	
Wastewater - Sewers	Laborer	5	
<b><u>Subtotal, Wastewater</u></b>		<b><u>44</u></b>	
<b><u>MAINTENANCE SECTION</u></b>			
Maintenance	Maintenance Supervisor	1	
Maintenance	Chlorine & Safety Technician	1	
Maintenance	Control & Instrument Technician	1	
Maintenance	Electrical Technician	1	
Maintenance	Maintenance Technician	1	
Maintenance	Mechanical Technician	1	
Maintenance	Vehicle Electrician	1	
Maintenance	Vehicle Mechanic	1	
Maintenance	Technician Assistant	1	
Maintenance	Laborer	1	
Maintenance	Laborer	1	
<b><u>Subtotal, Maintenance</u></b>		<b><u>11</u></b>	

<b><u>Department - Section</u></b>	<b><u>Position</u></b>	<b><u>No.</u></b>	<b><u>No. Not Needed in 2004</u></b>
Customer Service	Customer Service Department Manager	1	
Customer Service	Messenger/Office Boy	1	
Customer Service - Billing	Billing Supervisor	1	
Customer Service - Billing	Billing System Operator	2	
Customer Service - Billing	Inspection Technician	1	
Customer Service - Billing	Senior Assessment Clerk	1	
Customer Service - Billing	Assessment Clerk	2	
Customer Service - Billing	Customer Files Clerk	1	
Customer Service - Billing	Meter Reader	7	
Customer Service - Billing	Data Entry Clerk	3	
Customer Service - Collection	Collection Supervisor	1	
Customer Service - Collection	Special Accounts Clerk	1	
Customer Service - Collection	Debt Recovery Clerk	1	
Customer Service - Collection	Objections Caseworker	1	
Customer Service - Connections	Connections Supervisor	1	
Customer Service - Connections	Sewer Connection Inspector	1	
Customer Service - Connections	Water Connection Inspector	1	
Customer Service - Connections	Pipefitter	2	
Customer Service - Connections	Welder	1	
Customer Service - Connections	Plumber	10	

Customer Service - Connections	Meter Technician	1	
			<u>No.</u> <u>Not</u> <u>Needed</u> <u>in 2004</u>
<b><u>Department - Section</u></b>	<b><u>Position</u></b>	<b><u>No.</u></b>	
Customer Service - Customer Relations	Customer Relations Supervisor	1	
Customer Service - Customer Relations	Customer Service Representative	7	
Customer Service - Customer Relations	Water Tanker Driver	3	
<b><u>Subtotal, Customer Service</u></b>		<b><u>59</u></b>	
<b><u>FINANCE &amp; ADMINISTRATION</u></b>			
<b><u>DEPARTMENT</u></b>			
Fin & Administration	Department Manager	1	
Fin & Admin - Accounting/MIS	Accounting/MIS Supervisor	1	
Fin & Admin - Accounting/MIS	Financial Accountant	1	
Fin & Admin - Accounting/MIS	Budget & Cost Accountant	1	
Fin & Admin - Accounting/MIS	Cashier	1	
Fin & Admin - Accounting/MIS	Benefits Clerk	1	
Fin & Admin - Accounting/MIS	Payments & Payroll Clerk	1	
Fin & Admin - Accounting/MIS	Cashiering Clerk	1	
Fin & Admin - Accounting/MIS	Fixed Assets Registrar	1	
Fin & Admin - Human Resources	Human Resources Supervisor	1	
Fin & Admin - Human Resources	Personnel Clerk	1	

<b><u>Department - Section</u></b>	<b><u>Position</u></b>	<b><u>No.</u></b>	<b><u>No. Not Needed in 2004</u></b>
Fin & Admin - Office Services	Switchboard Operator	1	
Fin & Admin - Office Services	Driver	4	
Fin & Admin - Office Services	Mail Clerk	1	
Fin & Admin - Office Services	Typist	2	
Fin & Admin - Office Services	Guard	2	
Fin & Admin - Office Services	Laborer	3	
Fin & Admin - Office Services	Messenger/Office Boy	3	
Fin & Admin - Purchasing & Stores	Purchasing and Stores Supervisor	1	
Fin & Admin - Purchasing & Stores	Purchasing Specialist	1	
Fin & Admin - Purchasing & Stores	Storekeepers	3	
Fin & Admin - Purchasing & Stores	Guard	3	
Fin & Admin - Purchasing & Stores	Laborer	2	
<b><u>Subtotal, Finance &amp; Administration</u></b>		<b><u>38</u></b>	
<b><u>TOTAL STAFF (2005)</u></b>			<b><u>272</u></b>

**ANNEX C****POSITIONS, BY OCCUPATIONAL GROUP**

<u>Group</u>	<u>No. (2005)</u>	<u>Position Class</u>
<b>TOP MANAGEMENT</b>		
General Manager	1	A1 Manager
Technical Manager/Deputy General Manager	1	A1 Manager
Finance & Admin Department Manager	1	A1 Manager
Customer Service Department Manager	1	A1 Manager
<b><u>Subtotal, Top Managers</u></b>	<b><u>4</u></b>	
<b>SUPERVISORS</b>		
Water Department Manager	1	A2 Supervisor I
Wastewater Department Manager	1	A2 Supervisor I
Engineering & Projects Supervisor	1	A2 Supervisor I
Accounting/MIS Supervisor	1	A2 Supervisor I
Sourceworks Supervisor	1	A3 Supervisor II
Sewers Supervisor	1	A3 Supervisor II
Rural O&M Supervisor	1	A3 Supervisor II
Rural Customer Service Supervisor	1	A3 Supervisor II
Quwayra Department Manager	1	A3 Supervisor II
Purchasing and Stores Supervisor	1	A3 Supervisor II
Office Services Supervisor	1	A3 Supervisor II
Networks Supervisor	1	A3 Supervisor II
Maintenance Supervisor	1	A3 Supervisor II
Customer Relations Supervisor	1	A3 Supervisor II
Connections Supervisor	1	A3 Supervisor II
Collection Supervisor	1	A3 Supervisor II
Billing Supervisor	1	A3 Supervisor II
<b><u>Subtotal, Supervisors</u></b>	<b><u>17</u></b>	
<b>SPECIALISTS</b>		
Wastewater Treatment Process Engineer	1	A2 Specialist I
Information Systems Specialist	1	A2 Specialist I
Industrial Waste Specialist	1	A2 Specialist I
Human Resources Supervisor	1	A2 Specialist I
GIS Specialist	1	A2 Specialist I
Financial Accountant	1	A2 Specialist I
Database Administrator	1	A2 Specialist I

Chemist	1	A2	Specialist I
Purchasing Specialist	1	A3	Specialist II
Projects Inspector	1	A3	Specialist II
Cashier	1	A3	Specialist II
Budget & Cost Accountant	1	A3	Specialist II

**Subtotal, Specialists** **12**

#### **TECHNICIANS**

Mechanical Technician	4	B1	Technician I
Mapping Technician	1	B1	Technician I
Maintenance Technician	1	B1	Technician I
Laboratory Technician	2	B1	Technician I
Electrical Technician	4	B1	Technician I
Control & Instrument Technician	2	B1	Technician I
Chlorine & Safety Technician	1	B1	Technician I
Vehicle Mechanic	1	B2	Technician II
Vehicle Electrician	1	B2	Technician II
Meter Technician	1	B2	Technician II
Leak Detection Technician	1	B2	Technician II
Laboratory Assistant	2	B2	Technician II
IT Technician	1	B2	Technician II
GIS Technician	2	B2	Technician II

**Subtotal, Technicians** **24**

#### **OPERATORS**

Wastewater System Operator I	3	B1	Operator I
SCADA & Telemetry Operator	4	B1	Operator I
Billing System Operator	2	B1	Operator I
Wastewater System Operator II	6	B2	Operator II
Switchboard Operator	1	B2	Operator II

**Subtotal, Operators** **16**

#### **CRAFTSMEN**

Water Connection Inspector	2	B1	Craftsman I
Surveyor	1	B1	Craftsman I
Sewer Connection Inspector	1	B1	Craftsman I
Welder	8	B2	Craftsman II
Plumber	19	B2	Craftsman II
Pipefitter	5	B2	Craftsman II
Inspection Technician	1	B2	Craftsman II

**Subtotal, Craftsmen** **37**

**CLERICAL**

Special Accounts Clerk	1	C1	Clerical I
Payments & Payroll Clerk	1	C1	Clerical I
Objections Caseworker	1	C1	Clerical I
Debt Recovery Clerk	1	C1	Clerical I
Benefits Clerk	1	C1	Clerical I
Personnel Clerk	1	C1	Clerical I
Administrative Assistant	1	C1	Clerical I
Fixed Assets Registrar	1	C1	Clerical I
Customer Service Representative	7	C2	Clerical II
Cashiering Clerk	1	C2	Clerical II
Storekeepers	3	C2	Clerical II
Senior Assessment Clerk	1	C2	Clerical II
Secretary	2	C2	Clerical II
Customer Files Clerk	1	C2	Clerical II
Assessment Clerk	2	C2	Clerical II
<b><u>Subtotal, Clerical</u></b>	<b><u>25</u></b>		

**SEMI-SKILLED**

Water Tanker Driver	5	D	Semi-Skilled
Wastewater System Operator Assistant	6	D	Semi-Skilled
Typist	2	D	Semi-Skilled
Technician Assistant	3	D	Semi-Skilled
Sewer Maintenance Worker	5	D	Semi-Skilled
Meter Reader	9	D	Semi-Skilled
Mail Clerk	1	D	Semi-Skilled
Heavy Equipment Operator	9	D	Semi-Skilled
Driver	13	D	Semi-Skilled
Data Entry Clerk	3	D	Semi-Skilled
<b><u>Subtotal, Semi-Skilled</u></b>	<b><u>56</u></b>		

**UNSKILLED**

Messenger/Office Boy	4	E	Unskilled
Laborer	40	E	Unskilled
Guard/Laborers	32	E	Unskilled
Guard	5	E	Unskilled
<b><u>Subtotal, Unskilled</u></b>	<b><u>81</u></b>		

**TOTAL****272**



**ANNEX D****CLASSIFICATION OF CURRENT WAJ AQABA STAFF**

<b><u>Job Title</u></b>	<b><u>No.</u></b>	<b><u>AWC Class</u></b>	<b><u>AWC Job Group</u></b>
Assistant Secretary General	1	A1	Top management
Subscribers Manager	1	A1	Top management
Department Managers (Water & Quwayra)	2	A2	Supervisor
GIS Specialist	1	A2	Specialist
Database Administrator	1	A2	Specialist
Wastewater Section Head	1	A2	Supervisor
Section Head	4	A3	Supervisor
Engineer	1	A3	Supervisor or Specialist
Branch head	2	A3	Supervisor
Accountant	2	A3	Specialist
Inspector	5	B1	Craftsman
Lab Technician	1	B1	Technician
Operation technician	4	B1	Technician or Operator
Surveyor	1	B1	Craftsman
Computer operator	2	B1	Operator
Construction Foreman	1	B1	Craftsman
Technician II	1	B2	Technician
Mechanic	2	B2	Technician
Operator	8	B2	Operator
Plumber	16	B2	Craftsman
Electrician	4	B2	Technician
Welder	3	B2	Craftsman
Stores Controller	2	C1	Clerical
Accounting clerk	2	C1	Clerical
Admin II	1	C2	Clerical
Cashier	2	C2	Clerical
Objection Caseworker	1	C2	Clerical
<i>Ma'mur maqsam</i>	1	C?	Clerical?
Asst Accountant	2	C2	Clerical

Admin III	1	C2	Clerical
Storekeeper	2	C2	Clerical
Clerk	2	C2	Clerical
Driver	30	D	Semi-Skilled
Meter reader	11	D	Semi-Skilled
Data Entry Clerk	2	D	Semi-Skilled
Typist	4	D	Semi-Skilled
Guard	3	E	Unskilled
Laborer	116	E	Unskilled
<b><u>Total</u></b>	<b><u>246</u></b>		